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**A STUDY OF THE INFLUENCE OF APPRECIATION OF SCIENCE
UPON CONSERVATIVE THEOLOGICAL BELIEF**

**A Thesis
Presented to
the Faculty of
Asbury Theological Seminary**

**In Partial Fulfillment
of the Requirements for the Degree
Bachelor of Divinity**

**by
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June 1961**

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CHAPTER I

THE CONTEMPORARY PROBLEM IN CHRISTIAN APOLOGETICS

I. THE NEED FOR AN ARTICULATE WITNESS

There is today as in all ages a reticence on the part of the unbeliever to accept the Christian gospel. The very fact of a man's personal existence attests to the reality of a divine creator but he is skeptical concerning the point of an articulated promise of future life, particularly when the promise is conditioned upon man's free moral choices in this life.

Today's world is a world of science. Through a structured approach, the human race has been able to overcome many of the threatening forces of life and in addition by means of inventive genius man has been able to make life more pleasant. As a result, there is a prevailing optimism that man is the sole author of his destiny. With the tangible products of scientific progress at his fingertips man does not look with favor upon the Christian proclamation of man's moral inability. The eternal relationship of man to his creator is to him a speculative question of lesser importance than the decisions of temporal existence. Answers to eternal questions are therefore deferred, and too often an individual is ushered into the presence of his Creator, never having seriously considered his personal responsibility before God.

This general lack of an awareness of eternal truth places an obligation upon those who have experienced a divine reality that

transcends the level of temporal existence. Those who are convinced that the Christian gospel is essential to man's temporal and eternal well-being must articulate the gospel message in such a form that it cannot be evaded, and so that even its rejection becomes an admission of the reality of God.

II. SOME LIMITATIONS OF CONTEMPORARY APOLOGETICS

There have been many books written during the last decade which purport to interpret Christianity to a scientific age but which are ineffective in their witness. These are usually written from within the following two perspectives.

1. Men of science who analyse the nature of science to demonstrate that a religious faith can be rationally held without a contradiction of truth.

2. Men of religious motivation who stand in opposition to each new scientific proposition as a possible threat to faith. These often view such propositions as stemming from a malicious antagonism to Christianity rather than from an honest search for truth.

Such perspectives are inadequate because they focus upon temporal issues and because they fail to recognize the basic cognitive distinction between the believer and the skeptic. A valid Christian apologetic must at the outset assume an inherent honesty of scientific investigation and must avoid structuring itself upon individual temporal issues. If an apologetic is bound to time and space it soon becomes an answer to a non-question and if insisted

upon, will be a reproach to the clear-sightedness of the Christian.

An apologetic must also start at the point of cognition. Many people will not seriously consider the gospel because they are unwilling to admit the legitimacy of supernatural evidence. The New Testament points out this problem when in I Corinthians 2:14 the perceptive capabilities of the believer and skeptic are contrasted. When this fact is overlooked unwarranted presuppositions are used as starting points for analogical and pseudo-logical defenses of Christianity.

III. THE PURPOSE OF THIS STUDY

The purpose of this study is to investigate the relationship of theological belief and scientific orientation. It is anticipated that in such a study insights will be forthcoming which will improve the Christian apologetic and point the way to additional work in the area of doubt.

IV. THE DIRECTION AND SCOPE OF THE STUDY

This investigation will seek first to define the philosophical tenets of the Christian faith and the nature of the doubt which reacts to these tenets. The contribution of science in the articulation of such doubt will be considered.

After the background has thus been established, an instrument for the measurement of theological and scientific attitudes will be evaluated as to its construction, administration, analysis, and pos-

sible contribution.

In scope the investigation will be limited to the college and seminary groups. At these levels of education the conflict is at its peak as scientific orientation has been effected and the student is first attempting to coordinate his various attitudes which heretofore have been kept in isolated categories.

CHAPTER II

CHRISTIAN APOLOGETICS IN AN AGE OF SCIENCE

I. THE PHILOSOPHICAL TENETS OF THE CHRISTIAN FAITH

In winning the world for Jesus Christ it is essential that each opportunity be utilized to the fullest. The strongest evidence for reality in faith is the transformed life of the Christian. Frequently there will be inquirers as to the source of his strength who when told that the Christian's strength is a product of faith in God will then expect a statement as to what constitutes faith. It is essential that the basic Christian truths be expressed, but in recognition of the difference in viewpoint and vocabulary care must be taken to express the elements of faith in terms understandable to the seeker. If the Christian insists at first in using terms which may be Biblical but which are but vague symbols to the non-Christian there will be little communication and the seeker may give up his search as a waste of time. It is questionable that in such instances the contact can be reinitiated at a later date.

Too often the presentation of the gospel seems so out of step with the philosophical spirit of the age that even the common sense of the witness is brought into question. It is the responsibility of the Christian witness to know precisely what he believes, and he must be able to show the unbeliever what constitutes an honest search for truth. In this preliminary stage the question must be raised as to whether the unbeliever is certain that he is searching all areas

of truth. The apologist cannot make the authoritative and alienating assertion that God says thus-and-so and then accept it or else, on this basis.

Basic tenets of the Christian message which stand in contradiction to the prevailing world view and which must be kept at the leading edge of an effective apologetic are:

1. Truth is only partially revealed through natural evidence.¹
2. Truth is objective and is not a product of majority opinion.²
3. Man has no final intrinsic value, either corporate or individual, apart from his special relationship to the Creator. This value is potential in all men and realized in those who respond to Jesus Christ in faith.³
4. There is a promise that there is life beyond this temporal existence which is in all respects superior to this life.⁴
5. There is a promise of divine strength and guidance for this plane of life which may be apprehended immediately upon the expression of faith in Christ.⁵
6. The apprehension of these promises cannot be experientially realized until there has been a wholehearted acceptance of the Christian

¹Matthew 16:17; II Corinthians 4:18; I Kings 19:11, 12.

²Psalms 100:5; Romans 1:25a.

³Psalms 100:3; Matthew 10:38; Psalm 8:4, 5.

⁴John 14:1, 2; Revelation 21:4.

⁵John 1:12; Ephesians 6:13; John 16:13.

thesis.⁶

II. BASIC PERSPECTIVES OF THE NON-CHRISTIAN

There are several attitudes of the non-Christian which may be individually analyzed. These stem from man's desire to place himself at the center of meaning and to explain mechanistically all the influences of life. There is an underlying implication that whatever yields to rational explanation has been subordinated and so loses its force. These desires have led to philosophical world-views and to a discreet method as an approach to truth.

Humanism

As a special creation of God, having been endowed with an immortal soul, man has the potential of becoming a member of God's spiritual family. He has been given a position and mental endowment far above the rest of creation. However, as a result of an ever increasing material progress, man's opinion of himself has become highly exalted. Time after time crises have arisen which have been overcome by the force of his will and mind. These have engendered pride, and the picture of a spiritual reality which cannot be grasped by force has grown dim.

Those who see no threat in their environment seldom feel any need for a personal faith in God. They will admit that such faith is essential to those weaker members of the human family who have been unable properly to adjust themselves to their environment and so need a unifying factor to tie the loose ends of their life together.

⁶John 3:3; 5:24; 3:36.

Belief in itself is considered real but the actual existence of a God is a fiction not tenable to the more intelligent and enlightened members of the race.

The humanist looks to a natural explanation of all phenomena and the postulation that man has been able to rise above his environment through an evolutionary process appeals to him. He likes to picture a positive, inner force working within man which seeks to improve the species. He looks optimistically to a glorious future, and patronisingly into the dim past. With an ingrained trust in himself, and backing in the light of human achievement he will not readily listen to a gospel that states that man is by nature evil and fallen, and that man now operates at far below his original created capacity. The Bible message is not that man has progressed unilinearly but that he has weakened in the moral areas of his existence.

Naturalism

In the course of material progress man has been able to find natural explanations for many of the superstitions of the past. As each phenomena once attributed to the operation of supernatural forces yields to rational explanation it is concluded that all events and phenomena will eventually have their causal relationships established. The naturalist looks forward to the day when all of life's factors can be controlled and no step of faith will be necessary.

It is not generally recognized that such optimism is unwarranted. Such progress as has been realized has been of collation and utilization rather than of causal explanation. The rate appears high

only because areas of study have been subjectively chosen for a high probability of success. Thereby most of the deeper questions facing man have been overlooked. These deeper questions of man's discreetness in his spiritual aspiration, and of origins have been sidestepped as merely speculative and fruitless. There is the expectation that eventually the race will become sufficiently enlightened in terms of naturalistic explanation that such matters will no longer be a concern. There is in this attitude an intentional evasion of historical data. Although the words have changed, the basic concerns are the same in every generation.

Naturalism places a wall around the Christian testimony in two ways. First, it denies the validity of supernatural evidence. Secondly, it takes the position that even if such forces are real, they are not relevant generally to human life and so can be ignored.

Experimentalism

Most of the material progress of the world is viewed as the product of the experimental method. Criteria for the resolution of information into general truth have varied through the ages but in its contemporary expression the experimental method consists in holding the thesis in abeyance until sufficient steps of verification have been taken. There have been sufficient victories in both the mechanistic and healing realms to convince men that the method itself is validated as the proper pattern in the search for truth. However here also there are subjective elements. Even the point at which the evidence is construed as sufficient is in itself a value judgement.

The experimental method places many obstacles in the path of the Christian apologetic. These stumbling blocks to faith have in essence been inculcated in our secondary schools and so represent the modes of thinking of most of today's youth, although they are not so evident in the older adults.

Relative truth. The first stumbling block is a concept of tentative truth. As more and more data emerge in respect to any given generalization the statement has to be modified. A familiar example of this is the boiling point of water. When it was first deduced that a liquid will boil at a specific temperature it was stated that the boiling point of water is 212°F. Subsequent observation demonstrated that such was not always the case. Therefore the proposition had to be restated as water boils at 212°F at sea level. Scientific fact is always considered open to restatement. The need for such reticence in stating fixed truth was solidified as a result of certain events at the turn of the century. During a period of optimism one of the leading universities deemphasized its physics program and the patent office closed because all that could be known had been established. As scholars of today look back upon these mistakes in judgement they avow that the same mistake will not happen again and are reticent to accept any statement of truth as final, thinking that such fixation can only stem from ignorance.

Natural data. The second stumbling block to faith within experimentalism lies in its habit of data collecting. Care is exer-

cised to treat only measureable data and even this is not handled at face value. For example if one were to observe an individual who appeared to be motivated by an invisible force and then he were to state, "I am Napoleon," they would discount his testimony and instead look for another explanation for his behavior. Likewise when the effect of spiritual reality is observed in the life of a Christian it is recognized that there is a potent force in his personal life which is not measurable. However, such effect is qualitative and the differences between its manifestation and those of one who has undergone a psychic catharsis are not readily evident. The non-believer who is an experimentalist has therefore within his training a view which can in good conscience reject personal testimony as lacking general validity.

The experimental method. The method itself comprises the third stumbling block to the perception of spiritual truth. In the experimental method data are first collected and then the causative relationship established. In the act of faith the acceptance of the causal relationship precedes the confirmatory evidence. Thus the method is in direct antithesis to the Christian apologetic. The experimentalist must first be shown that his method is limited to the apprehension of mechanistic truth before he can be effectively approached.

Testimony of the past. Experimentalists largely discount the findings of past generations. They look to the data as being valid but not the interpretation. From a perspective enlightened by recent

scientific advance it is assumed that past generations are limited in their expression and comprehension of truth. An example is the religio-historical approach to the Bible.⁷ The religious concepts of the Hebrews were construed to have been a product of environmental forces so their insights must be restated in terms of our advanced perspective after the cultural additions are removed. This attitude stands in the way of the acceptance of the Bible as an objective revelation.

Statements of moral law by the same argument are held to be limited by the culture within which they are expressed. They must be reestablished before being valid for our changed perspective. Moral aberrations do not become such until in the personal experience of the participant they produce an undesired result.

Collectivism

Another prevailing view is the collectivism of today's society. When the intrinsic worth of an individual as a special creation of God is denied, then values become a matter of social derivation. In a collective culture personal liberty may be sacrificed whenever it seems justified for the well-being of the community. Most of those who live under a democratic form of government would assert that man has inalienable rights but in practice would deny such assertion. They have become so accustomed to deciding issues by majority vote

⁷Herbert F. Hahn, Old Testament in Modern Research (Philadelphia: Muhlenberg Press, 1954), p. 33.

that the dissenter is seen as a threat to a benevolent society. There is a gentle coercion applied through the force of public opinion to which the dissenter is expected to submit. Examples of this collective force are seen in subtle areas of dress or undress and in the moral attitudes of teenagers who justify their dating and entertainment habits by the authority of "just everybody is doing it."

The following would be common beliefs in such a community:

1. Truth is relative to corporate goals; has no absolute content.
2. Morals are relative to group habit, standards being accepted only because an undisciplined life leads to social destruction.
3. Man should lose his outward individuality and be indistinguishable from the other men of his community.

The Bible shows that the proclamation of truth has never been a majority action, but has been entrusted to a small minority. Often only a single voice could be heard standing for eternal truths. The prophet Elijah certainly had no feeling that the authority of his message was derived from his friends and neighbors.⁸ He was so aware of his oneness that he did not even realize that there were others who took their stand for truth in his generation. Truth has normally been the challenge and corrective to society, rather than being defined in its terms.

III. THE CONTRIBUTION OF SCIENCE TO THESE PERSPECTIVES

⁸I Kings 19:10.

Science in the Articulation of Doubt

Science has been able to strengthen attitudes of unbelief by solidifying mechanistic interpretations of life into organized, classified philosophies. The mere categorization of beliefs tends to place an aura of authority about them. Science has enabled many to derive an internal consistency satisfactory to the articulate proponents and delusive to the laity. While not actually supporting their skepticism it has in a sense hardened their hearts in perhaps the same fashion as the Pharaoh's heart was hardened prior to the exodus of the Israelites from Egypt.⁹

Scientists in their questioning search for truth will propose unverified theses for speculative consideration. Often those who are unfamiliar with the processes and assumptions of the scientific method will seize upon these statements as demonstrated fact. An example of such distortion may be found in the aftermath of the theory of evolution. Some biologists even today hold this theory in abeyance as a thesis which helps in the interpretation of observed phenomena but as a position which still faces too many contradictions to be accepted without reservation.¹⁰ These men would wonder if its use has not been exhausted and seek a new perspective within which to make new advances in their science. But members of other disciplines, such as those of education,

⁹Exodus 7:10-13.

¹⁰John W. Klets, Origin, Genesis, and Evolution (Saint Louis: Concordia Publishing House, 1955), pp. 28, 42.

psychology, and comparative religion have seized upon it as proved fact, state it as an eternal truth of the universe and thereby use it to justify whatever conclusions they happen to cherish. In this fashion pure science unwittingly becomes the tool of unbelief.

The Contributions of Science to Christianity

Science as a method is basically amoral and has contributed to faith as well as to doubt. Two of these contributions have been expressed in a recent book.¹¹

1. It has unified the sublunar and supralunar realms.
2. It has discredited astrology.

The first means that it has been scientifically demonstrated that the same laws of mechanics apply to both the heavenly bodies and to the objects of earth. This rendered irrational the worship of the sun, moon, and stars as divine beings. Through the discrediting of astrology, man's destiny was divorced from the auspicious times established by astronomical orbits.

Science has also contributed to theology in that it has given the constant reminder that truth must always be expressed openly and in a rational manner. During the birth pangs of modern science during the Renaissance this was a powerful factor in stripping the Christian faith of rumor and hearsay and forcing theologians to base their postulates upon Biblical revelation.

¹¹E. L. Mascall, Christian Theology and Natural Science (New York: Ronald Press, 1956), pp. 14-16.

All people including theologians have benefited by the material fruits of the scientific age. Missionary effectiveness has increased from advances in transportation and communication. Healing techniques have been forthcoming which have eased the pains of humanity and thereby can be used in the expression of a loving concern for the peoples of the world. There have been methods devised for the preservation of priceless manuscripts, and thermosetting resins which enable the rapid copying on exact facsimiles of archeological impressions. The list of ways in which the tangible fruits of scientific research assist in Christian testimony would be a long one indeed.

The Negative Influence of Science Should Not Be Overstated

It is the proposition of this thesis that there is no essential conflict between science and the Christian faith, but that science ~~per se~~ has become the temporary scapegoat for doubt. That is, disbelief in today's world stems from the same basic perversions of humanity which have existed since the fall of Adam. However, science has been grasped as a possible articulation for unbelief. It has become a tool which the atheist has used in an attempt to justify his naturalistic stand.

It is further proposed that the general influence of science upon most people is not an objective orientation but a style of thinking and a general appreciation of what science can accomplish for man.

IV. THE SCIENCE-RELIGION CONFLICT

Historic Directions

For several centuries there has been debate over many supposed conflicts between the Christian faith and science. During the Renaissance this focussed about the rational presentation of all truth including the elements of Christian faith. For an extended period after the Renaissance there was debate over the particular scientific findings, many of which were viewed as threats to the faith. One such product of science was the proposition that the earth was spherical in shape. This was labelled as heretical, and as denying the Biblical reference to the four corners of the earth.¹² Defenders of the faith did not consider it necessary to first review the theological position before coming out in opposition to the thesis. If such reconsideration had been undertaken, other passages such as "the circle of the earth" might have diverted the issue.¹³ Controversy over particulars reached its climax in this country with the Scopes Monkey Trial in Tennessee.

Contemporary Approaches

During the twentieth century, as there has been a deemphasising of the objective Biblical content, the nature of the controversy has shifted until now it is a speculative study, by scientists, of the nature of truth.

There are some scientists who have ignored such issues as not being constructive, and have devoted their time fully to their more

¹²Isaiah 11:12.

¹³Isaiah 40:22.

productive research projects. Their general frame of reference does not admit that external attack upon their findings is justifiable. They would feel that it is beneath them to spend their time in defense of their work. These men live within a world of specialization in which no one considers himself an expert in several widely differing fields. Many sense the invisible testimony of their emotions to the fact that there is a reality not measurably perceived, and rely upon those who claim to be specialists in the interpretation of such manifestations. Some of these will look to the minister as an expert in his particular field of religion, and, not feeling personally competent to evaluate spiritual matters they will accept his diagnosis and treatment. This phenomenon is indicated by the testimonies of renowned scientists who closely reflect the pulpit attitudes of their formative years.¹⁴

There are, however, other scientists who are willing to probe the epistemological problems of science. J. G. Kemeny, a former research assistant of Albert Einstein, has recently pointed out the limitations of knowable truth, and emphasized science as a descriptive rather than a determinative discipline.¹⁵ W. G. Pollard has written an apologetic for his dual role as an Episcopal priest and as Director of the Institute of Nuclear Studies.¹⁶ E. W. Sinnott has seen theism

¹⁴Walter Howey (ed.), The Faith of Great Scientists (New York: Hearst Publishers, 1950).

¹⁵John G. Kemeny, A Philosopher Looks at Science (New York: Van Nostrand, 1959).

¹⁶William G. Pollard, Chance and Providence (New York: Charles Scribner's Sons, 1958).

in the biological goal seeking of life forms.¹⁷ Dr. Pollard in particular appears to be looking within the nature of science for justification of his faith in God. He is apparently so indoctrinated with the validity of science that his faith cannot be allowed to clash with his scientific perspective. He seizes upon the principle of indeterminism as one which does not exclude the possibility of a creative god. Dillenberger feels that such a position is inadequate because there is no guarantee that such a temporary admission as indeterminism will remain in the philosophy of science.¹⁸

Several scientists of evangelical persuasion have written books on science demonstrating that scientific data can be as adequately interpreted within the frame of reference of a creative and directive God as by an experimental and natural philosophy.¹⁹ Others such as Bernard Ramm have analyzed the claims of the religious and scientific contestants.²⁰

Unfortunately there have been many articles and books written by those who claim to be the true interpreters of both science and

¹⁷Edmund W. Sinnott, The Biology of the Spirit (New York: The Viking Press, 1955).

¹⁸John Dillenberger, Protestant Thought and Natural Science (Garden City, New York: Doubleday and Co., 1960), p. 285.

¹⁹Joan H. Wise (ed.), Modern Science and Christian Faith (Wheaton: Van Kampen Press, 1948); and John W. Klotz, Genes, Genesis, and Evolution (Saint Louis: Concordia Publishing House, 1955).

²⁰Bernard Ramm, The Christian View of Science and Scripture (London: The Paternoster Press, 1955), p. 48.

Christianity, but who treat the Bible as a textbook of science. Some try to show that each new postulation was already revealed to God's people. As an example they have looked to the creation account as demonstrating an undulating theory of light.²¹ They make no effort to look from a scientific perspective and serve only to antagonize both the scientist and the intelligent layman.

Definition of the Conflict is Necessary

Additional study is essential, which should be done by men entirely committed to their faith but who are acquainted with the methods and contributions of science. The presentation of such studies should be based upon fact rather than supposition, and therefore there should be a season of testing to determine the state of mind of today's citizens and the beliefs which are the dearest to them. A premature apologetic which falsely presents the problem is essentially negative in its witness.

²¹Ibid.

CHAPTER III

THE DETERMINATION OF THEOLOGICAL PERSPECTIVE

I. PRIOR STUDIES OF THEOLOGICAL BELIEF

Studies of Religious Attitude

An effective technique for the measurement of religious attitude has been developed by L. L. Thurstone and E. J. Chave.¹ Their method, however has been used only for the determination of a subjective "religiosity" rather than having been applied to objective Christian content. Such a subjective appreciation is easier to analyze because there is little problem of word meanings. The intent of such questions as the following:²

"I feel that church attendance is a fair index of the nation's morality."

"I like the ceremonies of my church but do not miss them much when I stay away."

is evident to the examinee regardless of his religious orientation.

Thurstone started from the basis that an opinion is a verbal expression of attitude and therefore the scales of Thurstone and Chave consist of a series of True-False statements.³

¹L. L. Thurstone and E. J. Chave, The Measurement of Attitude (Chicago: University of Chicago Press, 1929).

²Ibid., pp. 61 ff.

³Ibid., p. 7.

Studies of Personality Adjustment

There have been attempts to include religious faith in analytical studies of personality and social interaction.⁴ However, Christianity has generally been misconstrued in these studies. There have been investigators who have looked upon the Christian church as merely another pressure group contending for its share of public consideration. Others look upon religion in terms of its potential for personality integration. One of the most detrimental evaluations of Christianity is that which links it with intolerance. This is due to a fault in the testing procedure for prejudice in which the primary index of the intolerant personality is authoritarianism. In the intolerant person this authority is viewed as residing in self; and the factor of intolerance is manifested by inflexible personal criteria. Unfortunately in the wording of statements for the measurement of such inflexibility there is a failure to distinguish a personal sense of authority from the acceptance of some external standard as authoritative. Whenever such statements enter into the area of the propositional content of the Christian faith the most tolerant evangelical Christian would be assigned a high prejudice score.

There is the general recognition among scholars in the field of psychology that the best expression of Christianity is tolerant love. But tolerance is by some misconstrued as license rather than

⁴Gerhart Saenger, The Social Psychology of Prejudice (New York: Harper & Brothers, 1953), and Gordon W. Allport, The Nature of Prejudice (Boston: The Beacon Press, 1954).

liberty, and if authoritarian statements were to be removed from scales of tolerance they might then reappear in scales of objectivity, as the acceptance of non-rational evidence. For example, Gordon Allport identifies religion with a positive attitude toward life.⁵ He views the progress toward spiritual maturity as a process by which objective beliefs yield in frequent collisions with actual experience. He states that in true religion certainty is only tentative. Allport therefore would not be inclined to consider submission to authority in any form as representing anything other than a sign of prejudice.⁶

Roman Catholic Studies

The Roman Catholic church has in this country intensively studied the mechanics of imparting religious knowledge to its parochial students. These have been a series of questionnaires on various aspects of training and results have been published.⁷ These are aimed at evaluating the effectiveness of the present program with a particularly Roman Catholic orientation and so are of little help in the fabrication of a generally applicable measurement instrument.

Studies of Belief and Ethics

⁵Gordon W. Allport, The Individual and His Religion (New York: Macmillan Company, 1960), p. 101.

⁶Ibid., p. 72.

⁷Hubert J. McShea, A Study of Personality by an Analysis of Character Traits (Washington: Catholic University Press, 1952); and John B. McDowell, The Development of the Idea of God in the Catholic Child (Washington: Catholic University Press, 1952).

A personality study was conducted at the George Peabody College which included a scale of religious attitude.⁸ Since this study was conducted with a single distinct group, having a common religious basis and vocabulary, many of its questions are not directly applicable, although they give insight as to what constitutes an informative statement.

II. OBJECTIVE DETERMINATION OF RELIGIOUS CONSERVATISM

Reasons for an Objective Scale

The religious attitude scale developed by Thurstone and Chave is not directly applicable to the present problem because of the subjective nature of the statements used. While the subjective history of each examinee should be established for interpretive purposes, attitudes do not gauge specific Christian beliefs. When an unbeliever is faced with the gospel of Jesus Christ, his doubts relate to the content of the message and not to the attitude of the apologist. If it is thought that such objective approach is encumbered with unnecessary orientation factors it must be remembered that the Christian faith demands a considerable degree of such orientation. It is possible for a person to appreciate science without being instructed in its techniques, but Christian faith cannot be evidenced until there is an object of affection and loyalty. A mere yearning for spiritual

⁸Mary E. Winfrey, A Personality Study of College Girls (Nashville: George Peabody College, 1936).

fulfillment does not constitute Christian faith.

The Basic Question of the Scale

It is necessary that an objective measurement scale for theological perspective be free of denominational and sectarian implications. Therefore issues of doctrinal controversy were avoided in the statements used. The basis which has been selected centers upon the traditional tenets of the Christian church, and therefore low scores will indicate a liberalizing tendency toward a purely social gospel. Thus the scale can be considered as one structured by Christian conservatism.

The scale is structured around the question "How rigid is the adherence to the propositional content of the Christian faith?" There is no intent in the phrasing of this question to infer a personal inflexibility on the part of the conservative Christian since the liberal extremes would be fully as rigid in their adherence to the inviolability of natural law as is the conservative in his soteriology.

Areas of Emphasis in the Theological Scale

The following were the primary emphases used in evaluating statements for the theological scale. The attitudes listed under each heading start with the most conservative and progress linearly toward the liberal end of the scale.

1. Beliefs about the Bible.

- a. It is inerrant in scientific detail.
- b. It was written by divine dictation.

- c. Its truth is known by divine illumination.
- d. It contains the word of God.
- e. It is predominantly myth and legend.
- f. It is evidence of the development of human ethical values.

2. Beliefs about salvation and eternal life.

- a. Salvation is predetermined for some.
- b. Men are saved by faith and obedience.
- c. Salvation is by faith alone.
- d. Men are saved by works and right attitudes.
- e. All men are saved by a god of license.
- f. Men live forever through works and descendants.
- g. Life beyond death is a delusion.

3. Beliefs about supernaturalism

- a. God intervenes in contradiction of natural law.
- b. God interferes with natural law, but limits such interference to events connected with the work of redemption.
- c. Miracles are real and will be understood in heaven.
- d. So called miracles will be eventually understood on earth.
- e. We are close to explaining all of life's forces.

It will be noted from the foregoing list that within just these three areas there are elements directly relating to the four areas of doubt of humanism, naturalism, experimentalism, and collectivism discussed in Chapter II.

III. DETERMINATION OF DEPTH OF CHRISTIAN COMMITMENT

Even though the measurement of theological perspective is

objective in nature there may be conservative responses in which the tenets of Christianity are only environmental occlusion. A person may subscribe to such beliefs because no one has ever inferred that such are unnecessary or because the testimony of his conscience tells him they are true. If this is the case the conservative leaning as would be measured might be altered when the first real conflict appears between faith and science. It is therefore necessary for the purposes of this study to establish the depth of Christian commitment.

Depth can be determined through the subordination of relative values. The area of life that will not be subordinated represents the most deeply seated reality. Whenever a Christian has experienced a faith as deep as the biblical expectation in which even citizenship is thought of in terms of another world, there is nothing to which he will subordinate his religious belief.⁹ Therefore statements are used in this study in which either the religious or scientific outlook must submit to the other, thus revealing the governing perspective of the examinee.

IV. THE INFLUENCE OF SCIENTIFIC APPRECIATION

The problem immediately facing the Christian in his witness is not a question as to the potential of science to contribute to attitudes but of the degree to which there has actually been a conditioning. Such influence is not normally one of technical instruction

⁹Hebrews 11:13.

but has resulted from the improved standard of living which is a fruit of science. Also there has been some indoctrination in the teaching of the scientific method in public schools. The measurement of scientific influence therefore is not a matter of objective content but should determine how important science is to the individual in his own thinking. This importance manifests itself as an appreciation and this therefore has been chosen as the area of measurement.

V. CONSIDERATIONS OF PERSONALITY

It would not be sufficient in a study of this type merely to relate theological to scientific perspective. If such a relationship did develop, it would then be necessary to judge whether or not there were personality factors which contributed to the relationship. That is, is there a general attitude of mind which explains the variation of scientific appreciation independent of theological belief? There are two attitudes which could be significant in the problem.

1. Is either science or religion placed upon a pedestal from which it is viewed from a different perspective than applies to other areas of life?

2. Is there a tendency to prejudice, so that after an opinion has been formed new data will not be admitted readily?

The area of personality is difficult to analyze. There are as many theories of personality as there are investigators in the field. However within the study of science and religion it appears that the primary factor is of self direction. Does the student face

issues logically and with anticipation or does he let someone else do his thinking for him? This question relates to both of the above attitudes and thus it seems that both can be evaluated by a study of intolerance. G. W. Allport and G. Saenger have done extensive work in the area of prejudice and the following represents a modification of their studies so that they will pertain to the present investigation.¹⁰

Symptoms of Prejudice

Prejudice is in general a form of submission. However this is a complex in which submission to the "in-group" is reflected as an ascendance over, or authoritative attitude toward, whatever person or persons are low enough socially to be safe victims of the intolerant person's vented frustration. It is in a sense a fear compensation.

The sense of an authority resident in self is considered a satisfactory measurement of intolerance. This technique is reliable insofar as the distinction from the acceptance of external authority as discussed on page 22 is kept in mind. Saenger has listed several traits of the authoritative personality which may be utilized in this present investigation.¹¹

Categorization. The intolerant person tends to place people in broad categories in which they are viewed as basically alike. There

¹⁰Allport, The Nature of Prejudice; and Saenger, op. cit.

¹¹Saenger, op. cit., chapter 9.

is no awareness that they are distinct individuals and until such awareness is established there is little probability of an altered attitude.

Lack of compromise. The authoritative and intolerant person faces each issue as having absolutely right and wrong alternates. To him compromise is a sign of weakness. This corresponds to the tendency to categorize. Saenger found in his studies that it was possible to obtain a qualitative indication of prejudice with the use of only five statements in which the responsee was faced with an absolutely Yes or No situation.

Parental Hostility. Investigators feel that as much as one third of our present college population is intensely hostile to one or both parents. Adolescents often show a lack of appreciation for the habits and beliefs of their "less enlightened" parents and are not open to the ideas that their parents might be completely justified in their attitudes. At this age the group or gang represents a greater force for conformity than the family, because adolescents feel the need of social acceptance. They realize that they already have the concern of their parents but now they need to demonstrate their acceptability to the younger group. This submission to one group in which the expression is intolerance to parents has the same rootage as racial or ethnic intolerance.

It is probable that this area of measurement is overworked, in fact those statements relative to parental hostility were analyzed

and it was found that only approximately five per cent of the college age group had intolerance to parents.

Indecision

Bowing to the will of others is difficult to analyze. There is a question as to whether it is a lack of drive or if it is fear. It is conceivable that a person will avoid making decisions and therefore rely upon others because he is afraid that he faces an issue completely it will bring up things better left hidden. Whatever the cause this attitude should be considered in the measurement of intolerance because there is the possibility that a lack of drive in rational thinking will parallel a shallowness of religious belief. This lack of assertion may be evidenced in the following two ways.

Failure to answer. It is probable that the conforming person will leave many unanswered statements on the opinionnaire. Contemporary investigators normally reject all returns having ten per cent or more of the statements unanswered. It is, however, possible that this eliminates completely a valid consideration in the study of attitudes.

Personal admission. Submission resulting in the adoption of a stringent regulative code breeds intolerance. But it is also conceivable that the individual may be so submissive that he will not bow to the wishes of one particular group but will submit to both sides of any issue. In this case he would be tolerant. He may be willing to decide but then, in mistrust of his judgement, may modify his action at the

slightest provocation. This would not manifest itself in unanswered statements because the answer blank itself is sufficient coercion to cause a response. To test this there must be reliance on the examinee's honesty in admission to having changed readily his mind.

Self Direction

This may be considered as objectivity as contrasted with the subjectivity of the ascendent or submissive personality already discussed. Self direction is approached in this study as a factor independent of ascendance because a person may decide that a choice is logical yet be unwilling to impress his personal conclusion upon another. Self directed individuals show no fear in new trials and even look forward expectantly to new challenges. Within the theological perspective the example would be direction by the Holy Spirit because to the believer the Holy Spirit provides the same integrating effect as manifested in the self directed non-Christian.

Areas measurable in self direction are (1) leadership, (2) self reliance, (3) lack of fear, and (4) creativity.

CHAPTER IV

AN INSTRUMENT FOR ATTITUDE MEASUREMENT

I. THE DEVELOPMENT OF THE EVALUATION SCALES

Selection of Response Type

When a testing device is being written it is necessary to consider carefully the type of response desired. For simplicity in answering and for ease of statistical handling of the returns a true-false response is ideal. Many investigators feel that such a response is limited in value because attitude is normally expressed somewhere between two limits rather than at the extremes. For this reason some have tried a method in which the examinee after self examination places a mark at some point on the attitude scale. Others have tried a scale in which the examinee selects one of a number of gradated answers to a statement. Still others feel that an objective response leaves much to be desired and therefore use personal interviews in which the examiner subjectively evaluates each sample immediately after the interview. The incremental scales are difficult to evaluate. The interview method is so time-consuming that the measurement of a large sample is impossible.

For the purposes of the present study the true-false answer should be adequate and probably ideal. In the first scale, that of theology, whether or not an individual subscribes to a particular tenet of the Christian faith is a "yes" or "no" situation. When

statements of faith are kept simple and single in meaning there is no gradation of acceptance. Thurstone and Chave have already demonstrated that a true-false response is adequate to measure appreciation such as is used for the science scale.¹ In regards to the third scale, that of the resolution of the science-religion conflict, there are only two sides which can be taken.

When a true-false form is used there is always a question as to the advisability of giving an alternate of "don't know." Such provision naturally makes the analysis of the test more difficult because each score must be adjusted by an arbitrary amount for the undecided answers. It was found that when there was indecision in regards to a particular statement, such indecision was general throughout the sampling. In these cases the problem was one of wording and such statements were eliminated for reasons of ambiguity. When provision is made for a few additional statements in each category several can be discarded after internal standardization without affecting the overall results.

The fact of indecision becomes more valuable when there has been a mild coercion to answer either true or false because then it will indicate a lack of deep seated motivation; provided that such response is honest. Such honesty can be approximated by checking continuity of response over one of the scales.

¹L. L. Thurstone and E. J. Chave, The Measurement of Attitude (Chicago: University of Chicago Press, 1929).

The Thurstone-Chave Method

In this very reliable method, attitude is measured by a true-false response to statements of opinion. An abundant supply of statements of opinion are written and then these are each assigned a value as to the level of appreciation which it represents. Such scales have been applied to many institutions effectively, such as the church, forms of government, et cetera.

Criteria for Opinionnaire Statements

The criteria which have been established for the statements to be included in the test instrument are:

1. The use of true-false response.
2. The use of opinions.
3. The assigning of a value to each statement of opinion in accordance with the Thurstone-Chave method.

II. SOURCES OF THE STATEMENTS

Statements of opinion were solicited from faculty and students at Asbury College. A copy of the request for such statements is included in Appendix B under the heading of "Scientific Attitude Survey." This request was made specifically to the members of the Science Seminar at Asbury College because the members of this seminar, both faculty and students, are intimately concerned with both Christianity and science. Most of them have already experienced the problems of witnessing to people who have been conditioned by science

and have also faced some of the apparent challenges of science to the propositional content of the Christian faith. The writer participated in this seminar in order to sense more adequately the problems and attitudes of this age and interest group.

Books were reviewed in the field of theology in as many levels of Christian faith as possible. The scale from atheism to ultra-fundamentalism was divided into increments and then books from each increment were read for the statements which would most clearly express that increment.

Books were reviewed which reflect general campus attitudes toward religion, science, and philosophy. Students were personally interviewed with regard to their religious aspiration, ethical attitudes and sensitivity to the world about them. In classes which the writer teaches reactions to both authoritative and non-directive teaching were observed. The students were also observed in their reaction to statements which posited religious faith as relevant to teaching methods.

The statements were coordinated to ascertain if all pertinent propositions and scale levels were represented. Then additional statements were written to fill the gaps.

III. SELECTION OF THE STATEMENTS USED

The selection was concurrent with the collection of the statements. The first step was to gauge in a general way the wordings and concepts which would be measurable. This was accomplished by

use of the "Equal Interval Judging Sheet" which is included in Appendix A. Several seminary students considered this sheet and attempted to relate the statements as to theological level.

A preliminary questionnaire with a true-false response was then written as a trial for statements in the several areas of concern. This instrument was administered to a young adults church class of fourteen members. Problems of ambiguity and terminology were revealed.

A group of seminary students, both men and women, were then chosen for review of the statements submitted. There were eight participants chosen for a general balance of interest. That is, there was at least one member placing high on each of the seven value scales of the "Study of Values Test."² This group reviewed the statements submitted and reworded them as necessary to express simple concepts and to remove ambiguity. The statements were reworded to prompt answers in both directions. There were considered to be advantages for each responsee to be able to answer one half true and one half false regardless of his position on the scales. Approximately two hundred statements were analyzed for the theology scale, one hundred for the science, and seventy for the resolution scale.

Gradation of Statements

In accordance with the Thurstone-Chave method each statement

²G. W. Allport, et al., Study of Values (New York: Houghton Mifflin Company, 1951).

was assigned a value representing the position on its corresponding scale where the reversal from false to true would take place. This value was determined by the use of judges. There were three teams of judges, theological professors, theological students, and college science students. The theological students were used for the final values because this was the largest judging group. Wherever a marked difference showed between the groups in the assignment of a value the statement was eliminated for ambiguity.

The judging procedure used is given in Appendix B and briefly stated it consisted in the judge's first placing eleven index slips in front of him with the left slip representing the negative extreme and the right slip the positive extreme. Then he mentally pictured the other slips as representing equal increments of attitude. Each statement was read and then it was placed upon the index slip to which it corresponded. If the statement was placed on the fourth slip, in the opinion of the judge all below the position of the fourth slip would answer one way and all above would answer the other.

Selection of Statements

The judging results for each statement were computed for means and standard deviations. Where there was obvious disagreement the statement was rejected and those with the minimum standard deviation were chosen from the remainder, in each area of attitude. A few extra statements were included in the anticipation that when the final results were analyzed some would still be ambiguous. Thirty-two

statements were selected for the theological scale, seventeen for the science, and twelve for the resolution scale.

Prechecking the Statements

The theological statements were also pretested before the printing of the final statement booklet. This pretesting was done at the 1960 meeting of the Southeastern Section of the Evangelical Theological Society. The instrument used is included in Appendix A under the title of Internal Verification Questionnaire. This pretesting was particularly valuable in pointing up denominational implications and doctrinal ambiguities.

Statements in Other Areas

From the time required for the preliminary questionnaire and from the time available for the administration of the instrument it was concluded that in addition to necessary biographical information, one hundred statements could be used. Since only sixty were essential for the three scales under consideration, forty statements were available for the areas of personality, racial prejudice, ethics, and doctrine. These inclusions were advantageous because they prevented patterns of thought which might condition the later responses upon the earlier ones. The evaluation of results for some of these supplementary areas is not integral to the study but it is anticipated that these can be evaluated at a later date. Such evaluation might reveal the personality distinctions of the Christian from those about

him; and the effectiveness of doctrinal teaching in college.

IV. ADMINISTRATION OF THE QUESTIONNAIRE

Prior discussion. It was assumed that if the students who took the test had had advance notification there would have been the possibility of a temporary and untrue orientation within the areas covered in the examination. For this reason test groups for the preliminary validation were chosen from outside the college and seminary groups. The exceptions to this were the Seminar at Asbury College which participated from the beginning, and the evaluation group at the seminary which determined the final wording of the statements. It was assumed that the Seminar members however would not have given a response which would have been representative because they were already aware of the facets of the science-religion conflict. They were cautioned not to discuss the progress of the study outside the group.

Time limit for the examination. A fixed time limit was not imposed in the administration of the questionnaire. There are advantages pro and con in regards to a timed test. If there is no pressure to answer quickly, it was assumed that some might contemplate a statement in the light of what the answer would signify rather than expressing their actual opinion. If a time limit were established the unanswered statements might fall within essential areas which would reduce the value of the returns. Therefore the answer rate was established in the pretesting, then the length of the total test was

chosen so that it would take the average person approximately thirty minutes to complete the examination. This allowed sufficient time within a normal class period for the slower students to complete the test.

V. SCORING THE RETURNS

Initial Scoring

The answer sheets were scored by the use of punched overlays, one such overlay being used per scale. Each overlay was a sheet of index paper which was punched with holes which corresponded to the appropriate scoring responses. The simple count of the marks which matched the holes established the scores.

IBM cards were then punched in the several areas of measurement, each card containing pertinent biographical information, the score, and the actual individual responses for critical statements. There were four such cards per respondent; one for science, one for theology, one for personality, and one for the correlation of the scores. Each card bore a maximum of eighty places of information. The scores were correlated and the returns from the individual statements were tabulated as frequency distributions, using an IBM 101 Electronic Statistical Machine.

Internal Restandardization

Surplus statements had been included for each scale so that those which were finally demonstrated to be ambiguous could be replaced.

In the administration of the test the response pattern had been changed from the standardized true-false to yes-no in order to personalize the test; This was done on the basis that a yes-no return would encourage a real expression of opinion whereas a true-false might prompt answering on the basis of what should be believed. This change introduced seven possible double negatives and therefore internal restandardization was essential. This restandardization was accomplished by graphing the percentage of "no" response as a function of the scale value. Examples of these graphs are given in Appendix D under the heading of Internal Restandardization. Certain aberrations appeared in this step, as for example in the graph of Statement 26. The statement correlates for scores of above 23 but at a value less than this no relationship is seen. This is probably due to a lack of statement connotation to the low score respondents. The other graph shows a normal statement as it relates to the scale.

After this restandardization, the scales were reduced to comprise thirty theological, ten science, and ten religious conflict statements. These statements are listed with their mean scale values in Appendix D.

Rescoring the Returns

After the restandardization the returns had to be rescored to eliminate the effect of irrelevant statements on the scores. This rescoring was accomplished with a second set of overlays. These corrected scores were then punched into a single set of IBM cards for purposes of correlation. Biographical information pertinent to

such correlations and the most important statement-responses were automatically crosspunched from the first three sets of cards, using an IBM 519 Reproducing Machine.

False Responses

In a survey of this nature it was assumed that there is always the chance that some students who are not serious might intentionally give false answers as if they were trying to test their skill against the instrument itself. The Thurstone-Chave method of scaling lends itself well to the correction of this problem, since there should be a consistency of response in any particular scale. A false response index was chosen in which the scores on the low and high ends of the theology scale were compared. The mixing of the statements made it difficult for the respondent to give a planned false response and it was finally established that there were too few unoriented responses to justify the separation of such papers from the group.

CHAPTER V

THE RESULTS OF THE STUDY

I. THE PARTICIPATING GROUPS

The sample used in this investigation was selected primarily from students in institutions of higher learning. In addition the questionnaire was administered to a small group of inmates of the prison at LaGrange, Kentucky. The purpose of sampling this contrasting group was to scale the possible variations of perspective and an attempt to obtain a wider range of scores for the standardization of the instrument. A summary of the groups examined is given in Table I.

TABLE I

A SUMMARY OF THE PARTICIPANTS

	<u>Men</u>	<u>Women</u>	<u>Total</u>
University of Kentucky	153	3	156
Ashbury College	135	142	277
Ashbury Theological Seminary	118	44	162
LaGrange Prison	<u>43</u>	<u>0</u>	<u>43</u>
Totals	449	189	638

The numbers given in other tabulations will not always agree with this table since the electronic equipment used for the correlation would periodically reject a card. It was not considered advisable within the light of a statistical study to adjust for these slight aberrations.

II. THE METHODS OF CORRELATION

The scores and responses were correlated in the three following ways.

Attitude Profiles

The cumulative totals were plotted as a function of score for each test group and each scale. These curves for the four test groups were related on a single graph for each scale for illustration of the differences between the groups sampled.

Interrelationships

The interrelationships among the various scales were accomplished by plotting the average value of one scale as a function of a second scale. Normally these were drawn with the theology scale as the abscissa.

Contributing Factors

The responses to those statements which appeared qualitatively to affect the attitude were related to the pertinent scale by plotting the percentage negative response as a function of scale value. This technique is the same as that which was used in the internal restandardization and is illustrated in Appendix D.

III. THE BASIC ATTITUDES

Theological

The following Graph I shows the theological profiles for the major test groups. The profiles are shown as accumulative totals

in their relationship to theological score. There are two things evident from these profiles. First, as indicated by the prison and university results, there are a number of basic tenets of faith generally held by those outside of Christian institutions. Secondly, the sharp break of the curves for Asbury College and Seminary shows a distinct orientation. The only subgroup differentiations which were established are shown on Graphs 2 and 3. Graph 2 shows the slight sex differentiation of the college and Graph 3 illustrates that those preparing for Christian vocations at the seminary and college are only slightly more conservative than those who are not so preparing. The difference is constant at about one scale unit.

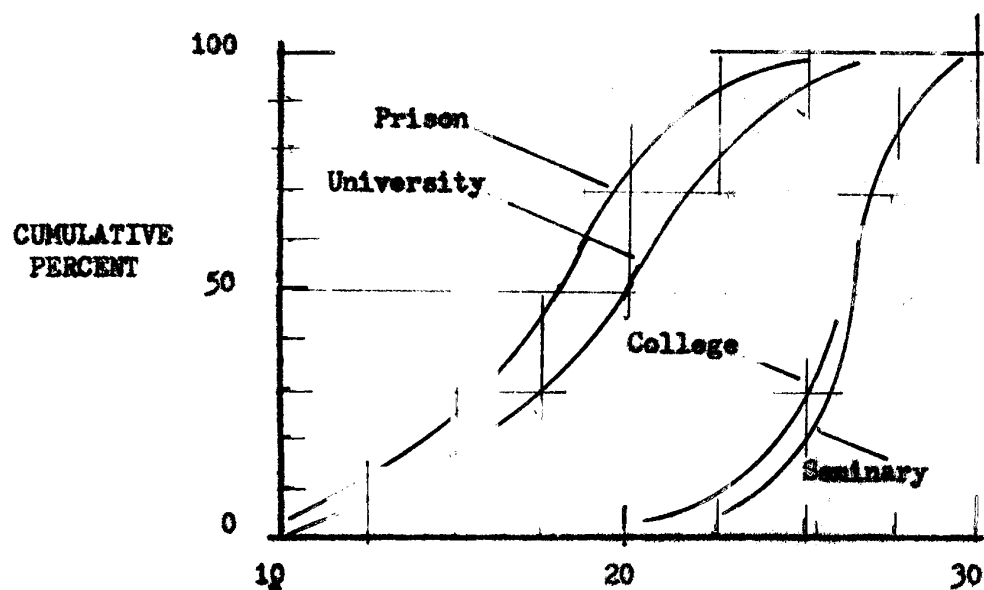
Scientific Appreciation

It can be seen from Graph 4 that the appreciation of science is the same for theological as for engineering students. This demonstrates that the scale is actually one of appreciation and is not influenced by objective scientific training.

The prisoners are markedly less appreciative of science but this could possibly be a result of a lack of contact with the contributions science has made to normal life. There was no class or sex distinction in the scientific attitude scores.

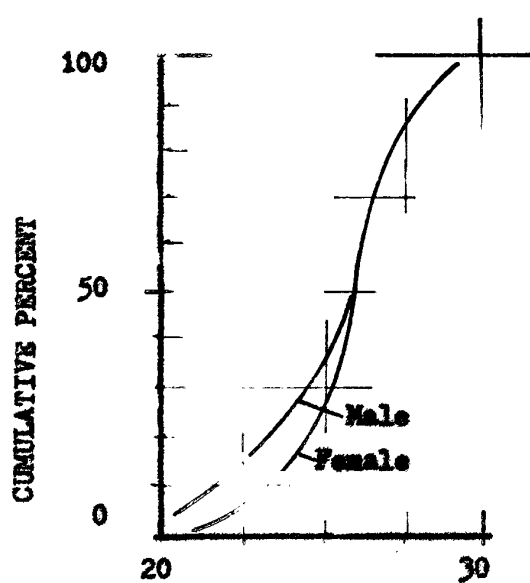
Resolution of Theological Conflict

The resolution scale was scored in the direction of pre-science, therefore the lower values represent a more theological motivation. Graph 5 indicates a possible relationship with theology since the

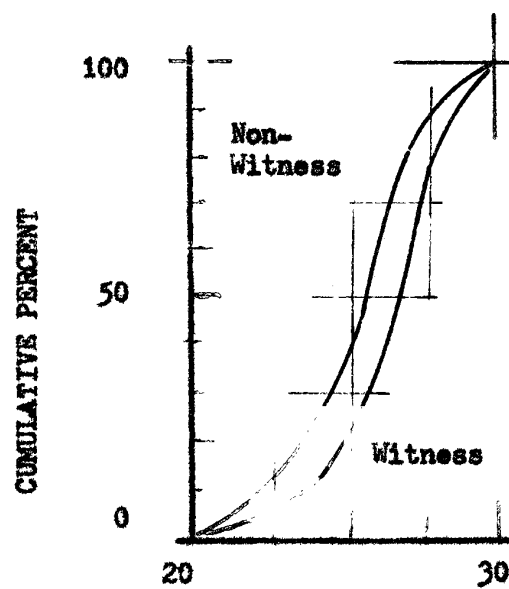


GRAPH 1

THEOLOGICAL PROFILES FOR THE MAJOR TEST GROUPS

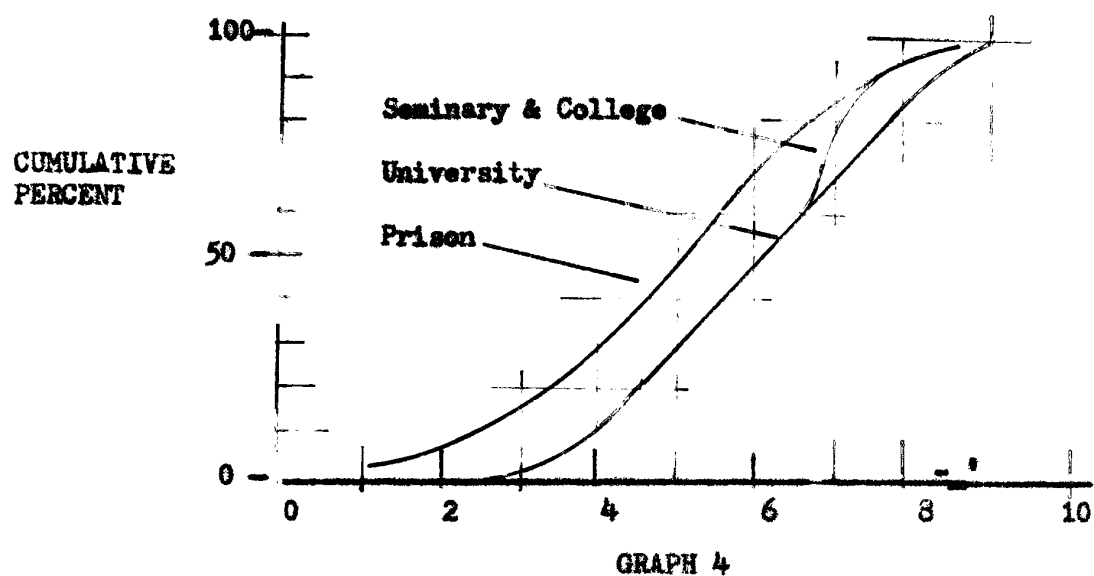


GRAPH 2

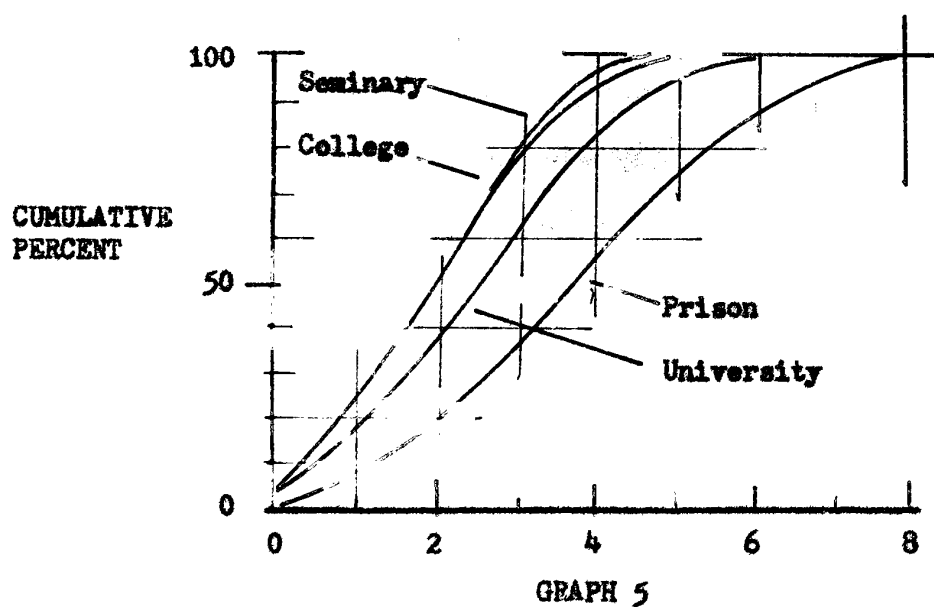
SEX DIFFERENCES FOR THE
COLLEGE GROUP

GRAPH 3

DIFFERENTIATION BY CHRISTIAN
WITNESS



SCIENTIFIC APPRECIATION PROFILES, BY MAJOR GROUPS



RESOLUTION OF CONFLICT PROFILES, BY MAJOR GROUPS

relative positions of the curves are reversed from Graph 1. The profile for the prison inmates is remarkable in the light of their low science values. It can be seen that even with their lack of appreciation of science, they still will subordinate Christian tenets to science. It is of course to be expected that if they enter prison because of a subordination of faith in its moral realm, they will likewise subordinate the Christian faith in other areas.

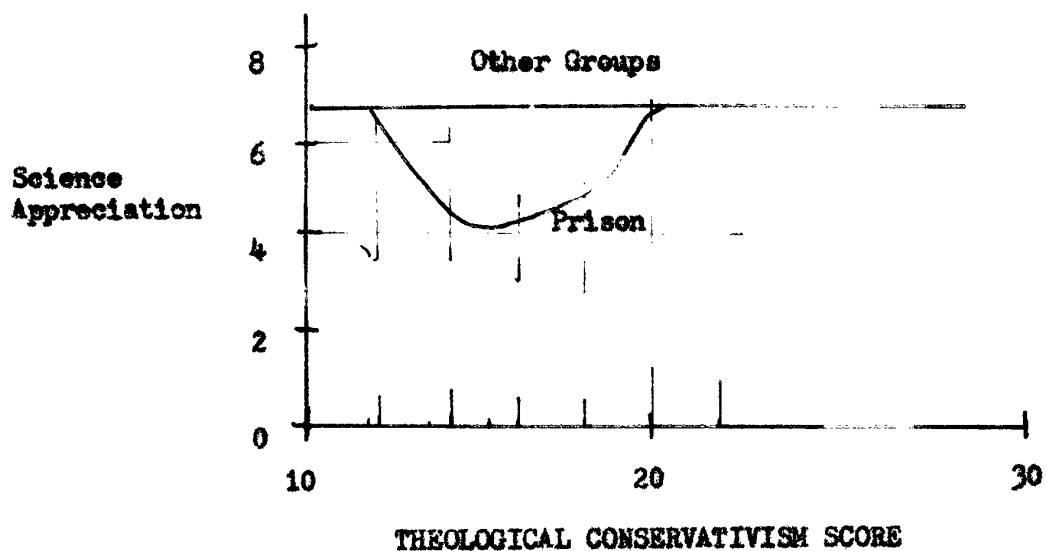
IV. THE INTERRELATIONSHIP OF ATTITUDES

Theology and Scientific Appreciation

No correlation appeared between theological position and scientific appreciation. This is indicated by the random quality of the data points on Graph 6. The irregularity of the prison response cannot be interpreted by means of the data at hand. It is possibly due to insufficient sampling, but probably indicates a personality difficulty which manifests itself in antagonism to both theology and science.

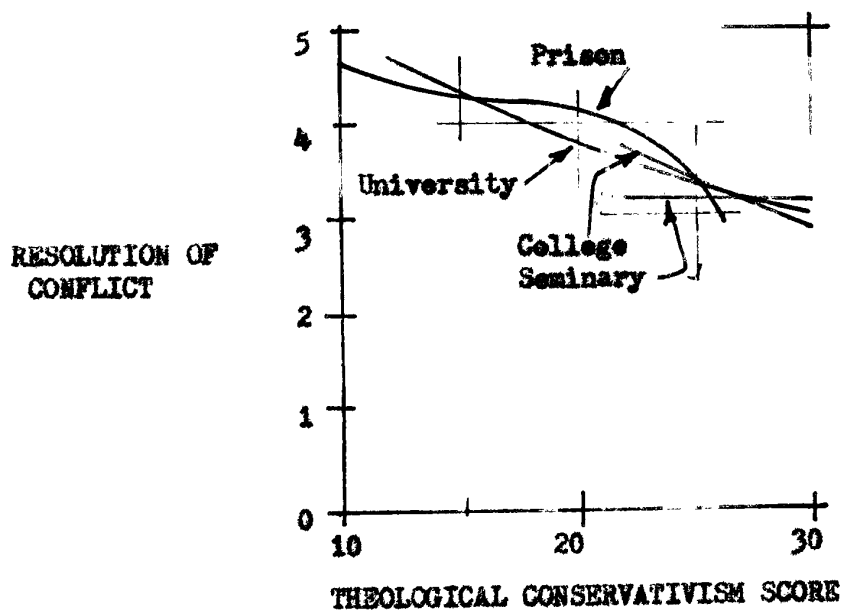
Theological Conservatism and Christian Commitment

Graph 7 shows a definite relationship between theological conservatism and unwillingness to relegate faith to a subordinate position. This would be positive evidence that as faith becomes motivating in life there is a definite correspondence between it and the attitude toward biblical truth. This correlation appears to be the same between the theologically orientated and non-orientated groups and thus relates directly to the particular concepts being



GRAPH 6

CORRELATION OF SCIENCE APPRECIATION AND
THEOLOGY SCORES



GRAPH 7

CORRELATION OF RESOLUTION OF CONFLICT
AND THEOLOGY SCORES

measured in the scale rather than to the particular doctrinal emphases of the two Christian institutions which participated.

V. ATTITUDES OF DOUBT

Statements which directly related to the areas of doubt discussed in Chapter II were selected and the responses to these statements were qualitatively analyzed. These statements are listed in Appendix C in the order of their mean theological score.

Naturalism and Humanism

There were ten statements in the questionnaire which related to naturalism and humanism. Of these it was found that seven correlated directly with the theology scale. It would thus appear that conservative Christians are sensitive to naturalistic and humanistic implications. The three which did not correlate with the theology score or which gave a negative correlation were:

1. Science is not the hope of the world.
2. The use of religion as an escape from the trials of life is beneath the dignity of an intelligent man.
3. Unmarried mothers should have a lowered social status in the community.

The first two of these is ambiguous, the words responsible for the ambiguity being "of the world" and "as an escape." It is assumed that these phrases carried a specialized connotation to the conservative Christians and thus the correlation was the opposite of that expected. In the third statement, having to do with unmarried mothers,

there was no relationship to theological position.

Collectivism

These statements also generally correlate with the theological score. The two exceptions were:

1. Security is more important than freedom in selecting an occupation.
2. After scientists have developed new products and ideas, they should then step aside, and allow others to find the best uses.

The lack of correlation of the first statement is a danger signal to the Christian apologetic. It might indicate a misunderstanding of the Christian life as basically one of freedom. The seminary students were more cognizant of the implication in this statement since only nine per cent of them responded in the affirmative. This was approximately one half of the overall "yes" response level. The second statement although bearing directly upon the collective spirit, yet has no theological implication.

There was an additional statement which might be construed as a danger signal. This was "I look to my friends for moral guidance." Approximately twenty per cent of all groups affirmed this statement. Reliance upon friends for moral instruction borders closely upon the acceptance of a collective definition of sin.

Experimentalism

Since the basic treatment of science was within the area of appreciation, most of the statements which relate to the scientific

method carry also the idea of a result of the method. Because of this mixing of concepts there were few statements which related to the theological scale. These were:

1. We cannot know if there is a God or not.
2. Scientists often overlook data when these data cannot be studied by their present methods.
3. World peace will come only after science finds the way to relieve starvation and suffering.

Statement 74 in the questionnaire which relates directly to the method was not marginal and therefore does not indicate much concerning its contribution to doubt. However this statement did show a higher affirmation rate for the engineering students than for theological students, this resulting possibly from actual scientific preparation.

VI. PERSONALITY FACTORS

Ascendence and Submission

There was no differentiation between the profiles of ascendent personality for the several test groups. This is a discouraging result because their Christian faith should have given those with the higher theological scores a calmness of soul that would contrast sharply with the following statements used within the scale of ascendence.

1. I am inclined to go out of my way to win a point with someone who has opposed me.
2. I become tense and irritated when I am in a hurry and the traffic is slow.

The pattern of submission was the same for all groups except

for the prison. This was as might be expected because criminal actions come from the yielding to rather than the openly facing of social pressures. It goes without saying also that the physical fact of incarceration bears vitally upon the prisoners' submission factor.

Lack of Compromise

The five statements which were used for the measurement of personal inflexibility are listed as follows in the order of ascending tolerance level.

1. There is never a legitimate excuse for sex relations outside of marriage.
2. There are definite "right and wrong" actions in any situation.
3. Unless a person is very cautious, he will be taken advantage of. sic
4. When we give foreign aid to a country, it gives us the right to make definite demands as to how it is to be used.
5. Unmarried mothers should have a lowered social status in the community.

Table II shows the responses to these statements. Immediately below the listing of the individual statement responses, the averages are given with and without the inclusion of the first statement. This illustrates the effect of using a moral precept in the measurement of authoritarianism. When this statement is included it appears that the university students are the most tolerant, but when it is excluded then all except the prison inmates have equivalent scores. This would correspond with the lack of differentiation between the groups on the ascendance scale and the uniqueness of the prison group

TABLE II

INDIVIDUAL STATEMENT RESPONSES IN THE MEASUREMENT OF LACK
OF COMPROMISE, BY GROUPS

Tolerance Level	Prison Inmates	University Students	College Students	Seminary Students
1.	51	42	85	81
2.	73	52	50	60
3.	74	68	40	51
4.	50	37	49	36
5.	26	19	26	22
Group Average	55	44	50	52
Group Average of the Last Four Statements	45	35	33	35

on the scale of submission.

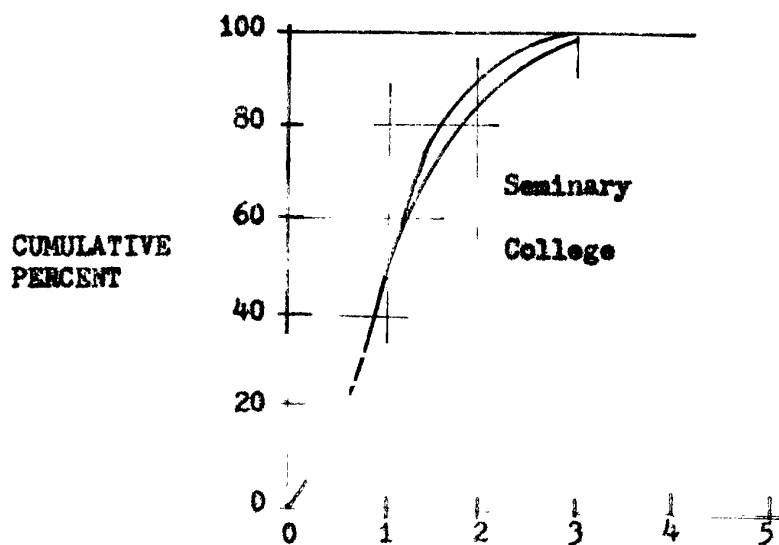
Racial Prejudice

The prejudice levels are low across the sample used in this study. Originally twenty-six statements were used in the racial prejudice scale representing all levels of racial prejudice, from complete identification to an aggression that desired the infliction of bodily harm to the "out-group," and of the denial of rights of citizenship. Of these twenty-six only twelve gave a sufficient variation of response to be valid for scaling purposes. This instrument was administered only at Asbury College and Asbury Theological Seminary. The profiles of prejudice for these institutions are given in the following graphs. Graph 8 shows the overall prejudice profile. Graph 9 shows the profile for those statements which relate to a feeling of racial superiority. It can be seen by a comparison of these graphs that superiority is a factor only of the higher prejudice values. In general, racial prejudice is evaluated in three areas, (1) Identification, (2) Superiority, and (3) Threat. In this study most of the reaction was in the area of identification and none in the area of threat. Viewed sociologically, this seems highly significant.

V. A LIMITATION OF THE STUDY

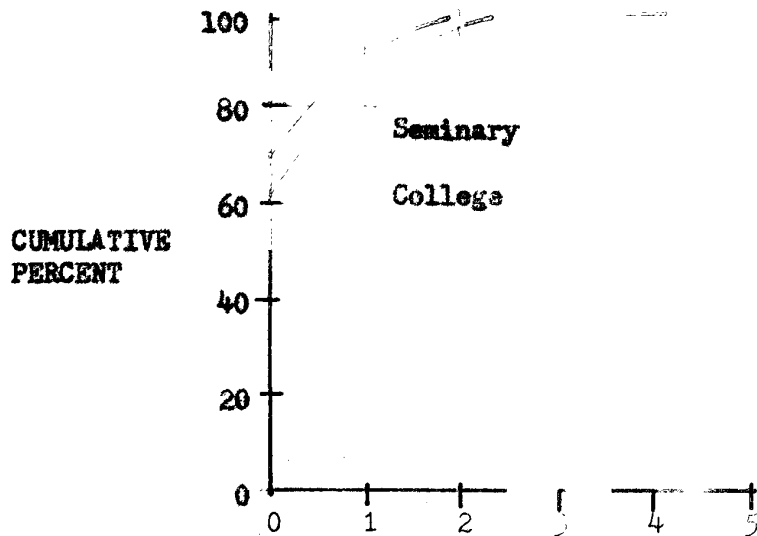
Science Orientation

It would have been informative to relate the scores to the actual amount of scientific training of the respondents. In the



GRAPH 8

RACIAL PREJUDICE PROFILES



GRAPH 9

PROFILES OF RACIAL PREJUDICE AS
SUPERIORITY

biographical section a question was included in which the semesters of mathematics and science taken were to be indicated. This did not connote the same thing to all respondents and therefore this factor could not be evaluated, except qualitatively by the comparison of the engineering students with the other groups.

CHAPTER VI

CONCLUSIONS AND RECOMMENDATIONS

I. CONCLUSIONS

The Scales

The scientific appreciation scale developed in this study is free of educative factors and thus is a valid test instrument for the determination of the general effect of science upon a test group.

The theological scale developed is satisfactory both for the determination of theological conservatism and of the depth of Christian commitment.

The theological scale is relatively free of denominational and sectarian implication.

The Relationships

Scientific appreciation as evidenced by the college population has little if any effect upon their theological attitudes.

When scientific claims and Christian beliefs are placed in sharp contrast the depth of motivation produced by Christian faith relates itself directly to the propositional content of that faith.

There is a sensitivity on the part of the Christian to the implications of naturalism and humanism, but too little sensitivity to the implications of experimentalism and collectivism.

Other Considerations

The personality patterns of the theological and engineering students are not markedly distinguishable.

One personality distinction of prison inmates is their high level of submission.

There is insufficient awareness of absolute moral precepts.

The inclusion of moral precepts can render invalid a test instrument for authoritarianism.

Racial prejudice in the institutions sampled is primarily an unwillingness to associate. There is little sense of racial superiority and essentially no sense of racial threat.

There is less parental hostility on the part of college students than some psychologists would indicate.

II. RECOMMENDATIONS

It is recommended that the following areas be considered for future study in Christian apologetics.

Effect of Scientific Training

Whereas this study shows that there is little effect of the normal untrained scientific appreciation upon faith, the question is still open at the point of whether specific training in the field of science engenders a resistance to the acceptance of the Christian gospel. Another area of this study would be the consideration of the effect of present day textbooks oriented in naturalism upon school children.

Specific Scientific Claims

It was not within the scope of this investigation to analyze beliefs in such specifics as evolution versus creation, and miracles. Since so many books dealing with the science-religion conflict make broad assumptions as to what is believed in these areas, a study at the point of how much such precepts are accepted would be constructive.

Experimentalism

It should be determined how much the experimental method is carried over into the apprehension of religious truth. The extent of awareness as to the limitations of the experimental method should also be measured.

Specific Christian Doctrines

A broad questionnaire should be administered in which the many teachings of the Bible are presented for acceptance. A careful analysis of the results could reveal the specific factors which underlie doubt. For example, if there were a rejection of the miraculous occurrences recorded in the Bible, then it could be established that doubt stems primarily from a naturalistic attitude. It would then be known at what point the Christian apologetic should begin. Even though the truths are eternal, the starting point for belief varies from generation to generation.

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APPENDIX A

Preliminary Testing Materials

The following mimeographed and duplicated sheets are actual specimens used.

is to establish a series of questions which will indicate the theological position of the person answering the questionnaire. On the final questionnaire all answers will be Yes-No. You are to indicate the relative position between 0 and 10 which you feel a Yes answer would establish.

on the scale is Ultra-Fundamentalist-

on the scale is Atheism, complete disbelief in God.

For ex: If you mark a statement to 6, you feel that a Yes answer to this question would

about 1/10 ~~above the~~ ~~total~~ of the total spread closer to Fundamentalism
an a statement marked to 5.

It is suggested that you go through once marking lightly and then adjust your answers drawing a dark line from O to the proper position.

the end mark the scale at the position which best represents your attitude.

God would approve of the uniting of Bible
teaching churches.

God has promised material blessing to those who obey him.

Sin is due to man's ignorance.

The atonement of Christ was for the sin of
 sm. We make retribution for our actual sins.

Jesus showed that death is not real and we
can resurrect ourselves.

By an enlightened study of the Bible we can predict the date of return of Jesus.

The Holy Ghost is not a person but an influence working within believers.

Prayer develops the feeling of divinity
within us.

Any man can obtain salvation by living a righteous life.

10. There is no inherited sin.

.. Upon death the Christian is immediately taken up to be with Jesus.

2. God created the universe but then left it
to its own devices.

5. Religion is mainly to improve our character and help our social relationships.

4. The Bible becomes truth only when the person reading it is a Christian.

5. Good people go to heaven even if they do not believe in Jesus.

5. Sin is willful disobedience.

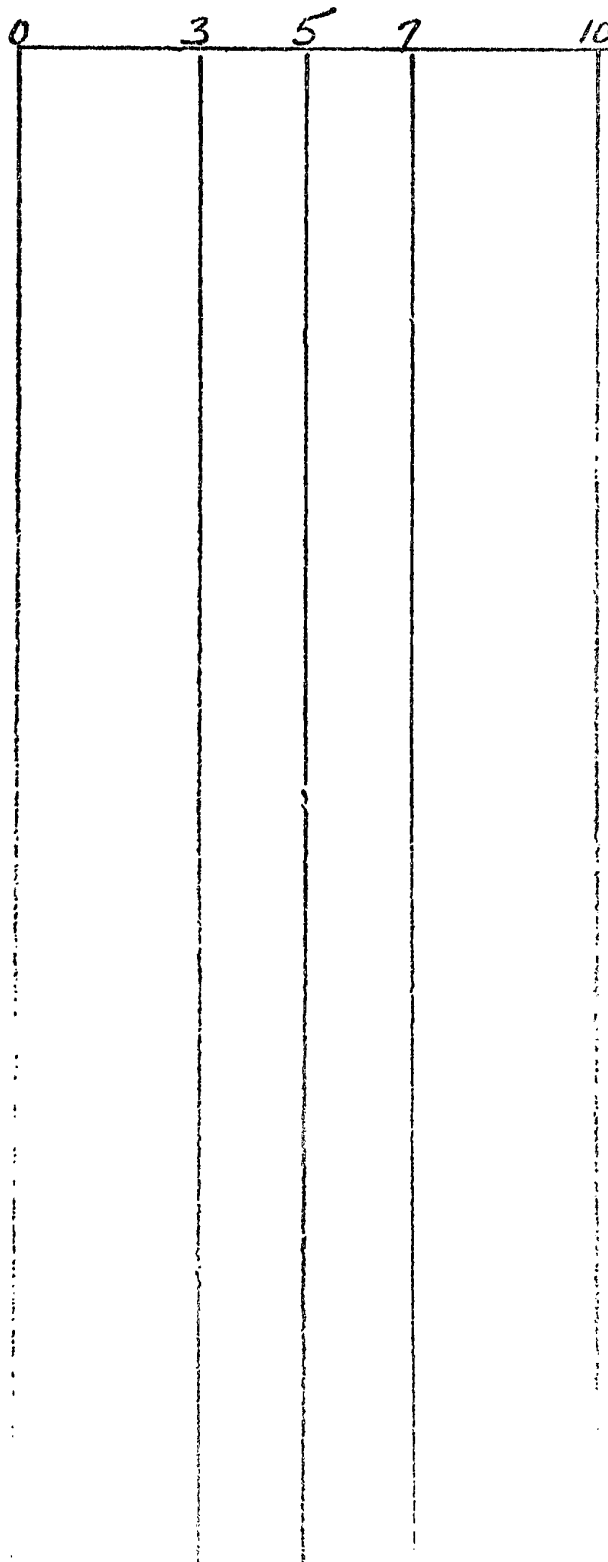
2. Ministers should be made to do some worthwhile work for a living.

1. A person will not suffer unless it is brought out by a particular sin of his.

3. The return of Christ will be in our generation.

1). Our intellect gives us an understanding of
2) and of ourselves.

1. People have eternal life only if chosen in advance.



50 _____ How many years have you regularly attended church _____ ~~KNOW~~
 a mark along the following line to show your average attitude toward the church
 the last few years.

as duty

Neutral

Enjoy Participation

Mark each of the following questions with a True or False to indicate agreement or disagreement with the statement.

1. ~~THAT~~ If there is a God who created the universe, he then left it to its own devices.
2. I would rather have a person explain an idea to me than to work it out by myself.
3. When I leave home I do not worry about whether the door is locked and the windows closed.
4. Whenever there appears to be a disagreement between the Bible and science, both sides of the problem should be carefully considered before a stand is taken on the issue.
5. ~~KNOW~~ I look forward to what my work will be for tomorrow or next week so that I can properly prepare for all things that might arise.
6. A minister has a special type of authority because he has been chosen by God to represent him.
7. It takes a lot of argument to convince most people of the truth.
8. God should be thought of as an ideal of Personality rather than as an actual Person.
9. Archeology has verified much of the Bible.
10. People can prettily easily change me even though I thought that my mind was made up on the subject.
11. Each Christian denomination should unite with other denominations which hold the same basic doctrinal position, overlooking personal reticence and organizational differences.
12. Scientists in general do not want to face the demands of belief in God and therefore pick and choose data to make the Bible to appear in error.
13. God has promised that those who obey his commands and give freely of their material possessions will in return enjoy material blessing while on this earth.
14. Studies in science and religion are done for entirely different purposes and there is no reason to try to resolve their conflicts.
15. There should be a better educational program to teach the children in public schools the bad effects of tobacco.
16. A person who is cleansed and sanctified by the Spirit of God is not capable of committing a sin.
17. It was necessary for Christ to die on the cross for the inherited sin of Adam. Once we have accepted his forgiveness we then only have to make retribution for our actual acts of sin.
18. I can be friendly with people who do things that I consider wrong.
19. A person cannot be a true Christian unless he can give an account of his religious awakening.
20. In the miracles God interfered with natural ~~known~~ law in a way that will never be humanly understood.

___ T ___ F

___ T ___ F

___ T ___ F

___ T ___ F

___ T ___ F

___ T ___ F

___ T ___ F

___ T ___ F

___ T ___ F

___ T ___ F

___ T ___ F

___ T ___ F

___ T ___ F

___ T ___ F

___ T ___ F

___ T ___ F

___ T ___ F

___ T ___ F

___ T ___ F

21. I sometimes cross the street to avoid meeting somebody. ___T___F
22. The Christian should use the Bible as a guide to self criticism. ___T___F
23. Both men and women are allowed more sexual freedom than they can handle. ___T___F
24. The Holy Spirit to whom believers refer is not a person but an influence working within their hearts. ___T___F
25. The "Call" of the Lord to enter the ministry may be a realization that one has a peculiar fitness & training for the work. ___T___F
26. I feel sure there is only one true religion. ___T___F
27. The Bible gives us an attitude ~~rather than facts~~ toward rather than facts about science. ___T___F
28. Events occur in the lives of Christians that prove that there is a creative God who is intensely interested in the welfare of those who trust in Jesus Christ. ___T___F
29. It is often as beneficial to the spiritual well being of an individual for him to take a meditative walk among the glorious wonders of nature as to participate in an organized Sunday morning worship service. ___T___F
30. I believe that the return of the Lord will be this generation. ___T___F
31. Prayer is answered only as we become reconciled to the state from which we are trying to escape. ___T___F
32. A person who lives a good life, but who does not profess Christianity will have as good a chance of going to heaven, if there is one, as a professing Christian who by comparison does not live so good a life and is not as good a citizen. ___T___F
33. Often a person can be more respected by more people if he lowers his standards of conduct. ___T___F
34. The greatest service which can be performed by foreign missionaries is to raise the cultural and materials standards of the peoples with whom they live. ___T___F
35. A good religious man is said to have eternal life because he will be long remembered by his family. ___T___F
36. The Bible should be studied for its rich insights into human life rather than as a message from God. ___T___F
37. I usually let others have their own way, even at the expense of my own satisfaction. ___T___F
38. When someone says something silly or ignorant about something I know about, I try to set him right. ___T___F
39. The human intellect is capable of coming to an understanding of the nature of God and of the human race. ___T___F
40. The country would be better off if the churches were closed and the ministers set to some useful work. ___T___F
41. The Bible is ~~not~~ not revealed truth in itself but only speaks with authority when it is the path of contact between an individual and God. ___T___F
42. I know that there is a supernatural, divine spirit because he guides me through the difficulties of life. ___T___F
43. Jesus Christ and the Holy Spirit are distinct divine persons of the trinity but both are subject to God the father. ___T___F
44. Jesus showed us that death is not real, and therefore we can resurrect ourselves. ___T___F
45. Children are better prepared to face the growing complexities of our society by training in spiritual values than by training in the human and psychological factors involved. ___T___F

Age _____ Sex _____ Home State _____ Are you preparing for full time Christian service? _____ Approximate population of home community _____
 Did you graduate from high school? _____ How many years of college have you had? _____
 How many years have you been a Christian? _____ Were your parents members of the same religious denomination? _____ How many semesters of science have you taken; in highschool _____ in college _____?
 My church denomination is. _____

XXX Mark each of the following statements True or False to indicate your agreement or disagreement with the statement.

- | | | | |
|---|-------|---|-------|
| 85. There is no life after death. | _____ | T | _____ |
| 83. Man is by nature self centered and rebellious. | _____ | T | _____ |
| 98. Human reason is sufficient for all the trials of life. | _____ | T | _____ |
| 20. A person who lives a good life and helps his fellow man can get to heaven as readily as a Christian who does not express love for his neighbor. | _____ | T | _____ |
| 24. Man is basically good. | _____ | T | _____ |
| 31. Prayer is primarily a psychological means of easing frustration. | _____ | T | _____ |
| 72. The Resurrection of the physical body of Jesus after death is a fact central to the Christian message. | _____ | T | _____ |
| 35. Religion is escape from reality. | _____ | T | _____ |
| 36. Part of the Bible is true, part fictitious. | _____ | T | _____ |
| 81. The Christian life demands withdrawal from the world. | _____ | T | _____ |
| 54. "No!" may also be an answer to prayer. | _____ | T | _____ |
| 82. Without the experience of Pentacost for the disciples, there would be no Christian church today. | _____ | T | T |
| 61. The problems of mankind will be solved without supernatural help. | _____ | T | _____ |
| 22. Each Christian denomination should unite with others who hold the same basic doctrinal position, overlooking personal reticence and organizational differences. | _____ | T | _____ |
| 26. Good people go to heaven even if they do not believe in Jesus. | _____ | T | _____ |
| 46. The Holy Spirit is really the leading of our better instincts. | _____ | T | _____ |
| 47. The Bible fortells events still to come. | _____ | T | _____ |
| 14. The Bible should be studied for its rich insights into human life rather than as a message from God. | _____ | T | _____ |
| 42. Belief in the Virgin Birth is essential to salvation. | _____ | T | _____ |
| 77. The cross upon which Jesus died expressed both God's hatred of evil and His love of man. | _____ | T | _____ |
| 21. The Holy Spirit is not a divine person but an influence if the hearts of believers. | _____ | T | _____ |
| 52. The Bible is a book of human discovery about God. | _____ | T | _____ |
| 94. The dogma of the church should change as we learn more about God. | _____ | T | _____ |
| 79. Christians are supposed to continue the saving work of Christ. | _____ | T | _____ |
| 162. The gospel of Christ is a message needed by the whole world. | _____ | T | _____ |
| 156. Faith in Jesus Christ is stronger than death. | _____ | T | _____ |
| 169. The earth will be ruled by Christ in the near future. | _____ | T | _____ |
| 131. Our understanding of the Bible can be improved by a study of classical languages and nature. | _____ | T | _____ |
| 102. We cannot know if there is a God or not. | _____ | T | _____ |
| 128. The Bible is our final authority for moral actions. | _____ | T | _____ |
| 111. Christians should be passionately committed to truth as it is revealed in the Bible. | _____ | T | _____ |
| 174. God sends such disasters as earthquakes to punish people for their sins. | _____ | T | _____ |
| 135. Books should be carefully screened of immortality and atheism before they are put within the reach of college students. | _____ | T | _____ |
| 198. God always answers the prayers of believers. | _____ | T | _____ |
| 136. The Bible was inspired, word by word, by God. | _____ | T | _____ |

APPENDIX B

Materials Used for the Gathering and Evaluation of the Statements

A questionnaire is being developed to determine the effect of a person's religious belief on his attitude toward science. To minimize both the time required to answer the questions and to score the results it is essential that each statement be carefully chosen for clarity and relevance to the attitude being evaluated. Previous investigators have concluded that at least 150 statements should be considered in the selection of approximately 25 to be used for each attitude scale.

Will you please write statements that can be answered by a True or False response, which are pertinent to an attitude within the following areas.

1. Theological Positions- Statements for this scale should be graded between the extremes of a Radical Fundamentalism and Humanism. This scale should be kept free of emotional attitude such as like of certain forms of worship or church architecture. Keep strictly to objective belief.
2. Scientific Attitude- One end of this scale would be Appreciation, the other Deprecation. Keep these statements free of interrelationship between science and theology.
3. Science- Religion- This scale should establish the difference in importance of science and religion to the respondent, and whether he feels that these are mutually dependent areas of study.
4. General Attitude- It is essential to phrase some questions to establish whether the respondent's attitude toward science is an integral part of his general outlook, or whether he takes either science or religion and places it in a category by itself, or to be considered from a perspective alone to his general treatment of life.
5. Opinions- Please indicate controversial opinions in which it would be helpful to ascertain the degree of division. General doctrinal misunderstandings, particular social mores, etc. can be established by single statements.

In the phrasing of the statements the following should be considered:

1. Make each statement simple and direct, avoid compound concepts which may be influenced by a second variable.
2. Each statement is to be answerable with True or False. But be careful that both extremes of the attitude scale involved wouldn't answer the same. Vary the statements so that some can be answered False and Some True in the same direction of attitude.
3. Keep free of terminology which will not be understood by everyone. For example, the terms prophecy and regeneration will have different connotations dependent on the religious bias of the one taking the test. Each concept must be simply described. Also avoid words or terms which are flag wavers, if the subject becomes antagonized his responses will be worthless; you are not trying to prove a point, but testing a present attitude.

It is anticipated that the results of this survey will provide insights which will improve our Christian witness. Too often we presuppose the attitudes of non-Christians and so make mistakes in presenting the gospel. Therefore please treat this as a serious part of your Christian calling.

Please hand your statements to _____ by _____.

Thank you,
W. S. Heath

Statements are to be chosen from the enclosed for use in a science-religion attitude survey. This packet contains slips relevant to one or both of the following two scales.

Attitude Toward Science (200 series)

A scale which determines the respondents attitude toward science, as a degree of deprecation or appreciation.

Interrelation Between Religion and Science (300 series)

A scale which established the extent to which the respondent will sacrifice his appreciation of either religion or science when he is faced with a direct choice between them.

Sorting Instructions

For either set of statements, lay out the eleven index cards, from A to K. Assume K to ~~the~~ be the extreme appreciation of science in whatever scale you are working on. Place each statement on the index card which most represents the point of attitude at which you feel the answer will change from True to False. Adjust the piles until there appears to you ~~to~~ be an equal difference of attitude between the adjacent piles.

After all are located, place all in order with the appropriate index cards and tie together.

The statements are so worded that in some cases True will indicate a scientific leaning, and in other statements False will have the same meaning.

Record the statement numbers for those you are unable to place in the proper category below.

1. Meaning not clear-

2. Discontinuous statements- The extremes will both answer the same way, but not a middle position.

3. Statements in which the answer has no bearing on appreciation of religion or science.-

4. Other reasons-

If you have any comments or could suggest a rewording which might improve the general applicability of the statements, please list them on the back of this sheet.

Would you please also list questions of common interest in which it would be of value to know actual student response. Several opinion statements will be included in the final questionnaire. These could be in reference to doctrinal misunderstandings, ethical application of Christian belief, questions of faculty-student relations or other areas in which knowledge of attitudes would be of use.

Thank you,

Stanley Heath
18 Chapelview Court.

51

All substitutes for Christianity
have been tried and have failed.

52

The Bible is a book of human
discovery about God.

53

Most people advance in their
spiritual awareness through
a series of crises.

54

"No!" may also be an answer to
prayer.

55

Many people are hindered by the
obscure terms used by Christians
when they witness to others.

56

There is no sound basis for a
moral code without a belief in
immortality.

57

People should turn back to the
old fashioned beliefs."

58

Man is the crowning point of
creation.

59

Jesus is primarily a friend and
helper to Christian believers.

60

Nothing is relevant to salvation
unless it can be found in the
Bible.

61

The problems of mankind will be
solved without supernatural
help.

62

The basis for the Christian
miracles, such as the virgin
birth, can be found in the other
religions.

63

A sound spiritual life is the
goal of every thinking person.

64

Whenever Christianity has been
tried by a person, it has not
failed.

65

To love your enemies, you must
first love and trust God.

66

The "counsel of the ungodly" has
been published as the modern,
sensible way of life.

has led some men to be evil in
 their actions so that his purposes
 might be accomplished.

benefits from a church do not
 justify the money it spends.

churches should compromise their
 principles.

church unity will not be possible
 unless there is a common baptismal
 practice.

Christianity in general is hope-
 lessly out of date.

there may be circumstances under
 which a Christian is justified in
 renouncing his faith.

Christians should joyously await
 the return of the Lord.

The Christian church is a parasite
 on the community.

The dogma of the church should
 change as we learn more about God.

Orthodox theologians have made
 many stupid mistakes in the past.

Theologians are often guilty of
 premature views.

We should not insist on doctrines
 that science has proven out of
 date.

Cocktail parties are also an
 opportunity for witnessing about
 Christ.

Christians should be passionately
 committed to the truth as it is
 revealed in the Bible.

154122

ere are many cleverly invented
bles in the Bible.

Divine revelation is not necessary
for the well being of man.

1616128

cent world events are just as
redicted by the Bible.

The Bible is the final authority
for our moral actions.

131136

ur understanding of the Bible can
be improved by a study of classical
languages and nature.

The Bible was inspired, word by
word, by God.

104102

ere is no authority greater
than man.

We cannot know if there is a God
or not.

190191

he regularity of nature is
vidence of the constancy of God.

The Virgin birth was necessary
for Christ to be born.

121124

nd is more sovereign (ruling)
than loving.

The entire universe was created
by a single, instantaneous act
of God.

17096

tan is a powerful fighter
against God.

Jesus was the first Christian,
God used him for our example.

TABLE III

MEAN SCORE VALUES AND STANDARD DEVIATIONS FOR THE STATEMENTS
INCLUDED IN THE QUESTIONNAIRE

Statement Number	Mean Score	Standard Deviation	Statement
<u>Theological Scale</u>			
75	0.09	0.03	There is <u>no</u> life after death.
55	0.27	0.50	Religion is escape from reality.
10	0.73	0.88	We can <u>not</u> know if there is a God or not.
13	1.23	0.86	Good people go to heaven even if they do not believe in Jesus.
78	1.50	1.00	Prayer is primarily a psychological means of easing frustration.
22	1.64	1.17	The Holy Spirit is really the leading of our better instincts.
15	2.18	1.10	The Bible should be studied for its rich insights into human life rather than as a message from God.
19	2.40	1.67	There may be circumstances under which a Christian is justified in renouncing his faith.
89	2.55	1.19	The dogma of the church should change as we learn more about God.
66	2.95	1.19	Part of the Bible is true, part is fictitious.
84	3.5		Bible centered theologians have been noted for their many stupid mistakes.
68	3.78	0.77	Churches should discard beliefs in which they disagree.

TABLE III (continued)

4	3.-		The most important role of Jesus was as an ethical teacher.
38	4.05	1.04	I personally feel the need to believe in a divine creator.
98	5.18	1.59	Christian denominations should unite when they have the same basic doctrinal position, overlooking personal reticence and differences of organization.
1	5.71	1.57	The love of God includes judgement as well as compassion.
62	6.00	0.82	Faith in Jesus Christ is stronger than death.
72	6.09	0.88	The gospel of Christ is a message needed by the whole world.
41	6.50	1.20	The Bible is the final authority for moral action.
48	6.60	1.17	The Resurrection of the physical body of Jesus after death is a fact central to the Christian message.
58	6.73	0.87	Man alienated himself from God by a definite act of disobedience.
76	6.77	0.81	Man is by nature self centered and rebellious.
29	7.05	0.74	Christians should be actively committed to the truth as it is revealed in the Bible.
8	7.41	1.06	The Bible foretells events still to come.
63	7.55	0.93	The immorality of many movie actors and actresses is sufficient grounds for discouragement of theater attendance.
69	8.35	1.23	God always answers the prayers of believers.
57	8.68	0.95	Dancing and drinking are adequate evidences that Christ is not known as Savior.

TABLE III (continued)

67	8.70	1.19	The earth will be ruled by Christ in the future.
91	9.23	1.25	All sickness and disease can be traced back to sin as its cause.
96	9.41	0.75	God sends such disasters as earthquakes to punish people for their sins.
61	9.83	0.42	The Bible was inspired, word by word by God.

Scientific Appreciation Scale

80	0.43	0.63	Science is a catchall for misfits.
33	1.30	0.66	Laboratory research determines little of practical value.
37	2.25	1.11	Science is going too far in its search for knowledge.
5	2.65	1.09	Scientists often use their laboratories as a retreat from the world.
83	3.71	1.61	Scientists often overlook data when these data cannot be studied by their present methods.
7	4.18	1.51	Science does not interest me, but I expect it is worth while.
77	4.43	1.21	After the scientists have developed new products and ideas, they should then step aside, and allow other experts to find the best uses.
79	5.81	2.00	Recent scientific developments have made life more pleasant.
51	6.38	1.67	Falsification of facts is out of harmony with the spirit of science.
59	7.38	1.18	No person can be considered educated until he has a basic training in the sciences.

TABLE III (continued)

16	7.84	1.09	The main motive of scientists is the betterment of mankind.
90	8.51	1.14	World peace will only come as science finds the way to relieve starvation and suffering.
74	8.81	1.61	There is little worth knowing that cannot be demonstrated in the laboratory or by calculation.
47	9.25	1.10	Science is now the hope of the world.

Resolution of Conflict Scale

70	361	0.15	All scientists are atheists.
52	373	1.02	Christianity is the universal key to all areas of knowledge.
71	383	1.85	Church leaders are in general more scholarly than scientists.
49	338	2.3	Religious conviction is more important than scientific effort to the strength of a nation.
60	903	3.24	The Bible contains many evidences of scientific knowledge.
26	902	4.22	The Christian desire to help humanity has been an encouragement to scientific research.
46	329	5.43	We can learn much about God through the discoveries of science.
17	350	6.9	Ministers should never mention science unfavorably from the pulpit.
45	298	7.75	Scientists should openly point out the many weaknesses which they see in the Christian faith.
12	295	8.70	Escaping the trials of life through religion is beneath the dignity of an in-

TABLE III (continued)

			telligent man.
9	275	9.3	Religious faith dulls a person's mind so that he cannot face facts as they really are.
54	312		Science shows that much of the Bible is myth and legend.

APPENDIX C

The Opinoinnaire and its Contents

RELIGION-SCIENCE ATTITUDES CORRELATION

W. Stanley Heath, Ph.D.

This survey is being taken to determine if there is a relationship between religious belief and scientific attitude. Your cooperation in answering each statement will be appreciated.

First fill out the form at the top of the answer sheet. Any questions which do not apply to you now, should be answered with the response that would have been true for an earlier date.

Then read each statement in the booklet. If you agree, draw a small circle around Yes on the answer sheet. If you disagree, draw a circle around No. Even if you agree or disagree but slightly, still answer in the way which more closely represents your position. Be careful that the numbers on the answer sheet correspond to the numbers of the statements.

Please do not make any marks in the statement booklet.

TRY TO ANSWER EVERY STATEMENT ONE WAY OR THE OTHER.
Answer the way in which you actually feel, not the way which you may think you should feel.

Please address all correspondence to:

Dr. W. Stanley Heath
18 Chapelview Court
Wilmore, Kentucky.

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May 5, 1960

1. The love of God includes judgement as well as compassion.
2. If a person is sincere, he is probably in a proper relationship with God.
3. I look to my friends for moral guidance.
4. The most important role of Jesus was as an ethical teacher.
5. Scientists often use their laboratories as a retreat from the world.
6. If a person is related to God in a fully Biblical sense, it is not possible for him to sin.
7. Science does not interest me.
8. The Bible foretells events still to come.
9. Religious faith dulls a persons mind so that he cannot face facts as they really are.
10. We cannot know if there is a God or not.
11. Community attitude determines whether an act is sinful or not.
12. The use of religion as an escape from the trials of life is beneath the dignity of an intelligent man.
13. Good people go to heaven even if they do not believe in Jesus.
14. Christians are usually courteous drivers.
15. The Bible should be studied for its rich insights into human life rather than as a message from God.
16. The motive of most scientists is the betterment of mankind.

17. Ministers should never mention science unfavorably from the pulpit.
18. A Christian is obligated to obey civil laws even when they do not appear sensible.
19. There may be circumstances under which a Christian is justified in renouncing his faith.
20. Security is more important than freedom in selecting an occupation.
21. People today have a greater mental capacity than did the people of the Middle Ages.
22. The Holy Spirit is the leading of our better instincts.
23. The story of the Virgin Birth of Jesus is true.
24. There should be an active public school program teaching the bad effects of tobacco.
25. Unmarried mothers should have a lowered social status in the community.
26. The Christian desire to help humanity has been an encouragement to scientific research.
27. When we give foreign aid to a country, it gives us the right to make definite demands as to how it is to be used.
28. Free competition is one of our greatest advantages in the United States.
29. Christians should be actively committed to the truth as it is revealed in the Bible.
30. People can easily change my mind.
31. Both men and women are allowed more sexual freedom than they can handle.

32. I am inclined to go out of my way to win a point with someone who has opposed me.
33. Laboratory research determines little of practical value.
34. Unless a person is very cautious, he will be taken advantage of.
35. I cannot look at my religion in the same way I view other things in my life,
36. I enjoy situations in which I am forced to draw my own conclusions.
37. Science goes too far in its search of knowledge.
38. I personally feel the need to believe in a divine creator.
39. I have often been unfair in what I have said to my parents.
40. I would vote for the prohibition of the sale of alcoholic beverages if the opportunity presented itself.
41. The Bible is the final authority in moral decisions.
42. I become tense and irritated when I am in a hurry and the traffic is slow.
43. A person is not a Christian unless he can give an account of his conversion experience.
44. Jesus did not become the "Son of God" until baptism.
45. Scientists should openly point out the many weaknesses which they see in the Christian faith.
46. Science is increasing our knowledge of God.
47. Science is now the hope of the world.

48. The Resurrection of the physical body of Jesus after death is a fact central to the Christian message.
49. Religious conviction is more important than scientific effort to a nation's strength.
50. If a religious group shows actual results of divine healing, I will know they have truly found God.
51. Falsification of data is out of harmony with the spirit of science.
52. Christianity is the universal key to all areas of knowledge.
53. There is as much opportunity for success today as there ever has been.
54. Science shows that much of the Bible is myth and legend.
55. Religion is escape from reality.
56. I am very loyal to my church denomination.
57. Dancing and drinking are adequate evidences that Christ is not known as Savior.
58. Man alienated himself from God by a definite act.
59. No person can be considered educated until he has a basic knowledge of the sciences.
60. The Bible contains many evidences of scientific knowledge.
61. The Bible was inspired, word by word, by God.
62. Faith in Jesus Christ is stronger than death.
63. The immorality of many movie actors and actresses is sufficient grounds for discouragement of theatre attendance.

64. My parents expect me to live by outdated moral patterns.
65. Many claims of science are hard to accept.
66. Part of the Bible is true, part fictitious.
67. The earth will be ruled by Christ in the future.
68. Churches should discard beliefs in which they disagree.
69. God always answers the prayers of believers, although the answer is often "No".
70. All scientists are atheists.
71. Theologians are in general more scholarly than scientists.
72. The gospel of Christ is a message needed by the whole world.
73. Government aid to science should be increased.
74. There is little worth knowing that cannot be demonstrated in the laboratory or by calculation.
75. There is no life after death.
76. Man is by nature self-centered and rebellious.
77. After scientists have developed new products and ideas, they should then step aside, and allow others to find the best uses.
78. Prayer is primarily a psychological means of easing frustration.
79. Recent scientific developments have made life more pleasant.
80. Science is a catchall for misfits.

81. My mother is more dominant than my father.
82. I am confident that I could plan an interesting program for a class or a club.
83. Scientists often overlook data when these data cannot be studied by their present methods.
84. Bible centered theologians have been noted for their stupid mistakes.
85. The distribution of the Bible should be limited to those who have the divine illumination with which to understand it.
86. There is never a legitimate excuse for sex relations outside of marriage.
87. A person is not saved until he demonstrates his salvation by his outward testimony and good works.
88. My religious faith is too precious to confuse it with the problems of everyday living.
89. The creed of the church should change as we learn more about God.
90. World peace will come only after science finds the way to relieve starvation and suffering.
91. All sickness and disease can be traced to sin as its direct cause.
92. The Bible is not revealed truth in itself, but only speaks with authority when it is the avenue of contact between an individual and God.
93. Science makes less aggressive claims than it did 50 years ago.
94. There are definite right and wrong actions in any situation.

95. I do not like to be faced with decisions.
96. God sends such disasters as earthquakes to punish people for their sins.
97. I resent my parent's attitude toward my friends.
98. Christian denominations should unite when they have the same basic doctrinal position, overlooking personal reticence and organizational differences.
99. I can be friendly and at ease with people who do things I consider wrong.
100. I have been uncertain in most of my answers to this questionnaire.
101. My college teachers have been in general sympathetic to the needs and problems of their students.
102. If I were prepared, I would like to teach in college.
103. I am called to be a missionary.
104. If I were a college teacher, I would prefer to teach in a Christian college.
105. I will send my children to a Christian college if I can, rather than to a secular school.
106. Religious instruction should be a part of college training.
107. My professors express their own opinions too often.
108. Prayer has the power to change natural laws.
109. We have to attend too many chapel services.
110. I have read the entire Bible at least once.
111. I am confused in my religious belief.

Age _____ Sex _____ Home State _____ College Major _____
 Population of home community _____ Your families approx. yearly income _____
 National extraction (If family has been in US more than 3 generations write US) _____
 Are you married _____ If so, how long _____ Are parents separated or divorced _____

College Students; Are you preparing for or engaged in full time Christian service? _____
 Check your status; _____ Freshman _____ Sophomore _____ Junior _____ Senior _____ Grad. Student _____

Seminary Students; Check your status; _____ Junior _____ Middler _____ Senior _____ Advanced Work
 Do you pastor a church? _____ Do you do extensive personal witnessing? _____ People/Wk _____

How many semesters of math and science have you had in high school and college? _____
 Did either of your parents graduate from college? _____ Both? _____ What fraction of your
 expenses do you earn? _____ Father's occupation _____ What is your major
 outside interest or hobby? _____ How many books per month do you read? _____

Religious denomination (or faith) _____; Mother's _____ Father's _____
 How long have you been a Christian? _____ Did you become a Christian instantaneously or
 gradually? _____ Do you agree with the creed of your church? _____ How many worship
 services (not social functions) do you attend per month? _____ How often do you read your
 Bible? _____ Are you certain of eternal life? _____ Is Satan real to you? _____

- | | | | | | | |
|-----------|------------|------------|------------|------------|------------|------------|
| 1. Yes No | 17. Yes No | 32. Yes No | 48. Yes No | 64. Yes No | 81. Yes No | 95. Yes No |
| 2. Yes No | 18. Yes No | 33. Yes No | 49. Yes No | 65. Yes No | 82. Yes No | 96. Yes No |
| 3. Yes No | 19. Yes No | 34. Yes No | 50. Yes No | 66. Yes No | 83. Yes No | 97. Yes No |
| 4. Yes No | 20. Yes No | 35. Yes No | 51. Yes No | 67. Yes No | 84. Yes No | 98. Yes No |
| 5. Yes No | 21. Yes No | 36. Yes No | 52. Yes No | 68. Yes No | 85. Yes No | 99. Yes No |
| Mid | Pos | Sc | Doc | Sub | Sch | |
| Fet | Tot | S-R | Eth | Obj | Dec | |

6. Yes No	22. Yes No	37. Yes No	53. Yes No	69. Yes No	86. Yes No	100. Yes No
7. Yes No	23. Yes No	38. Yes No	54. Yes No	70. Yes No	87. Yes No	101. Yes No
8. Yes No	24. Yes No	39. Yes No	55. Yes No	71. Yes No	88. Yes No	102. Yes No
9. Yes No	25. Yes No	40. Yes No	56. Yes No	72. Yes No	89. Yes No	103. Yes No
10. Yes No	26. Yes No	41. Yes No	57. Yes No	73. Yes No	90. Yes No	104. Yes No
11. Yes No	27. Yes No	42. Yes No	58. Yes No	74. Yes No	91. Yes No	105. Yes No
12. Yes No	28. Yes No	43. Yes No	59. Yes No	75. Yes No	92. Yes No	106. Yes No
13. Yes No	29. Yes No	44. Yes No	60. Yes No	76. Yes No	93. Yes No	107. Yes No
14. Yes No	30. Yes No	45. Yes No	61. Yes No	77. Yes No	94. Yes No	108. Yes No
15. Yes No	31. Yes No	46. Yes No	62. Yes No	78. Yes No	109. Yes No	
16. Yes No		47. Yes No	63. Yes No	79. Yes No	110. Yes No	
				80. Yes No	111. Yes No	

SCORING

<u>Theological</u>	Neg	Science	Other	Asc	Are
Mid	Pos	Sc	Doc	Sub	Sch
Fet	Tot	S-R	Eth	Obj	Dec

- | | | |
|---|-----|----|
| 1. Colored people are unable to show restraint in religious worship. | Yes | No |
| 2. Weak people who allow their clubs to integrate should be legally protected from themselves. | Yes | No |
| 3. Most demands for racial segregation are made by the lower social classes. | Yes | No |
| 4. You can't know how big a problem negroes are unless you live in the South. | Yes | No |
| 5. Adam and Eve may have been negroes. | Yes | No |
| 6. I would not mind having a negro as a roommate or next door neighbor. | Yes | No |
| 7. The idea of physical contact with a black skin disgusts me. | Yes | No |
| 8. The right of a free trial is too good for a negro criminal. | Yes | No |
| 9. I would still associate with my brother if he married a negro. | Yes | No |
| 10. I am a firm believer in racial segregation. | Yes | No |
| 11. Negroes do not have a human soul. | Yes | No |
| 12. If the negro were given a chance, he might be as effective in professional work as a white man. | Yes | No |
| 13. Negroes should be made to live in compounds where they can be well supervised at night. | Yes | No |
| 14. It is all right for a school to integrate as long as separate eating and living facilities are provided for the negro students. | Yes | No |

- | | | |
|---|-----|----|
| 15. A few good stiff prison terms now and then helps remind the colored people of their rightful place. | Yes | No |
| 16. The inferior jobs should be set aside for the negroes. | Yes | No |
| 17. Racial prejudice generally disappears when people see what the others are actually like. | Yes | No |
| 18. Colored people seldom reach emotional maturity. | Yes | No |
| 19. Negroes that show intelligence are usually at least one half white. | Yes | No |
| 20. Negroes are generally very immoral. | Yes | No |
| 21. There is definite Biblical support for racial segregation. | Yes | No |
| 22. It would be challenging to hear the other side of social issues discussed by negro students in class with us. | Yes | No |
| 23. Negroes are too childish to know what is best for them. | Yes | No |
| 24. All colored people should be shipped back to Africa. | Yes | No |
| 25. It would be informative to discuss world problems at lunch with a Negro. | Yes | No |
| 26. Negroes have brought most of their problems on themselves. | Yes | No |

TABLE IV

DOCTRINAL STATEMENTS IN THE QUESTIONNAIRE WHICH ARE NOT
INCLUDED WITHIN THE THEOLOGICAL SCALE

2. If a person is sincere, he is probably in a proper relationship to God.
6. If a person is related to God in a fully biblical sense, it is not possible for him to sin.
11. Community attitude determines whether an act is sinful or not.
21. People today have a greater mental capacity than did the people of the Middle Ages.
23. The story of the Virgin Birth of Jesus is true.
35. I cannot look at my religion in the same way I view other things in my life.
43. A person is not a Christian unless he can give an account of his conversion experience.
44. Jesus did not become the "Son of God" until baptism.
50. If a religious group shows actual results of divine healing, I will know that they have truly found God.
85. The distribution of the Bible should be limited to those who have the divine illumination with which to understand it.
87. A person is not saved until he demonstrates his salvation by his outward testimony and good works.
88. My religious faith is too precious to confuse it with the problems of everyday living.
92. The Bible is not revealed truth in itself, but only speaks with authority when it is the avenue of contact between an individual and God.

ETHICAL STATEMENTS IN THE QUESTIONNAIRE WHICH ARE NOT
INCLUDED WITHIN THE THEOLOGICAL SCALE

14. Christians are usually courteous drivers.
18. A Christian is obligated to obey civil laws even when they do not appear sensible.
24. There should be an active public school program teaching the bad effects of tobacco.
25. Unmarried mothers should have a lowered social status in the community.
31. Both men and women are allowed more sexual freedom than they can handle.
32. I am inclined to go out of my way to win a point with someone who has opposed me.
39. I have often been unfair in what I have said to my parents.
41. The Bible is the final authority in moral decisions.
56. I am very loyal to my church denomination.
57. Dancing and drinking are adequate evidences that Christ is not known as Savior.
63. The immorality of many movie actors and actresses is sufficient grounds for discouragement of theatre attendance.
64. My parents expect me to live by outdated moral patterns.
86. There is never a legitimate excuse for sex relations outside of marriage.
94. There are definite right and wrong actions in any situation.
99. I can be friendly and at ease with people who do things I consider wrong.

TABLE VI

STATEMENTS WHICH WERE INCLUDED IN THE QUESTIONNAIRE FOR
PERSONALITY EVALUATIONParental Hostility

- 39. I have often been unfair in what I have said to my parents.
- 64. My parents expect me to live by outdated moral patterns.
- 81. My mother is more dominant than my father.
- 97. I resent my parent's attitude toward my friends.

Lack of Compromise

- 25. Unmarried mothers should have a lowered social status in the community.
- 27. When we give foreign aid to a country, it gives us the right to make definite demands as to how it is to be used.
- 34. Unless a person is very cautious, he will be taken advantage of.
- 86. There is never a legitimate excuse for sex relations outside of marriage.
- 94. There are definite right and wrong actions in any situation.

Other Statements of Ascendence

- 32. I am inclined to go out of my way to win a point with someone who has opposed me.
- 42. I become tense and irritated when I am in a hurry and the traffic is slow.
- 56. I am very loyal to my church denomination.

TABLE VI (continued)

Submission

- 3. I look to my friends for moral guidance.
- 20. Security is more important than freedom in selecting an occupation.
- 30. People can easily change my mind.
- 95. I do not like to be faced with decisions.
- 100. I have been uncertain in most of my answers to this questionnaire.

Objectivity

- 28. Free competition is one of our greatest advantages in the United States.
- 36. I enjoy situations in which I am forced to draw my own conclusions.
- 53. There is as much opportunity for success today as there ever has been.
- 82. I am confident that I could plan an interesting program for a class or a club.
- 99. Christian denominations should unite when they have the same basic doctrinal positions, overlooking personal reticence and organizational differences.

APPENDIX D

Opinionnaire Responses and Final Evaluation Scales

TABLE VII

PERCENTAGES OF YES RESPONSE TO INDIVIDUAL STATEMENTS, BY GROUP

Statement Number	Prison Inmates	Student Engineers	Seminary Students	College Students	Number Failing to Respond
1	84	93	100	97	6
2	64	54	5	13	2
3	30	23	18	23	6
4	54	25	3	9	6
5	40	48	32	38	9
7	55	9	10	17	4
8	75	89	99	99	5
9	32	6	0	1	3
10	52	26	9	7	1
11	43	27	2	72	2
12	45	32	35	39	11
13	33	31	3	2	16
14	36	41	69	65	15
15	40	25	1	2	4
16	78	80	87	91	3
17	41	48	22	37	7
18	85	84	96	95	8
19	62	23	4	9	7
20	26	17	9	20	6
21	62	62	14	27	1

TABLE VII (continued)

22	72	72	33	51	18
23	75	95	100	99	12
24	63	37	95	88	9
25	26	19	26	22	12
26	64	83	90	85	7
27	50	37	49	36	6
28	67	92	95	89	4
29	80	81	100	98	10
30	25	15	7	10	3
31	65	28	51	51	9
32	45	63	33	42	7
33	30	7	0	5	4
34	74	68	40	51	5
35	36	43	22	17	13
36	61	86	70	71	10
37	38	9	9	16	2
38	69	95	100	98	2
39	69	69	44	59	3
40	40	38	94	90	6
41	60	56	96	87	9
42		71	60	42	5
43	39	11	21	27	7
44	39	75	3	1	11
45	47	55	53	51	15

TABLE VII (continued)

46	52	66	77	77	5
47	68	30	0	8	15
48	71	90	98	93	10
49	51	68	94	90	16
50	63	31	12	27	13
51	51	86	87	77	15
52	58	55	72	82	10
53			35	44	9
54	35	17	6	7	8
55	34	9	0	2	7
56	51	53	80	80	13
57	40	12	58	54	10
58	67	60	96	88	22
59	42	59	63	62	5
60	69	84	93	92	10
61	65	59	47	75	7
62	70	86	98	98	11
63	46	22	81	71	9
64	26	9	2	6	7
65	67	43	61	69	7
66	40	28	96	98	5
67	68	54	95	88	9
68	50	17	10	11	14
69	72	77	95	94	13

TABLE VII. (continued)

70	37	2	0	1	7
71	50	17	4	8	18
72	71	96	100	99	7
73	76	88	74	80	10
74	58	10	0	4	11
75	57	7	4	3	15
76	70	77	96	94	8
77	36	18	20	12	10
78	57	33	0	4	11
79	72	95	93	94	5
80	43	10	0	2	9
81	51	29	34	30	26
82	57	73	87	84	9
83	38	42	54	48	21
84	43	34	18	25	30
85	41	9	3	4	13
86	51	42	85	81	12
87	53	32	29	26	14
88	41	18	6	15	20
89	53	63	33	36	22
90	34	34	2	5	10
91	39	14	27	21	9
92	46	52	8	20	23
93	48	21	35	20	23

TABLE VII (continued)

94	73	52	50	68	9
95	41	18	26	24	8
96	45	19	18	25	17
97	35	12	3	8	7
98	53	65	57	64	24
99	50	68	75	68	12
100	43	17	10	12	11
101	64	56	94	94	19
102	51	28	69	51	11
103	22	7	23	31	20
104	55	32	91	85	19
105	63	29	94	95	14
106	73	46	98	95	9
107	43	22	8	11	17
108	48	47	77	82	13
109	37	4	2	15	16
110	38	21	64	64	9
111	35	23	3	6	10

TABLE VIII

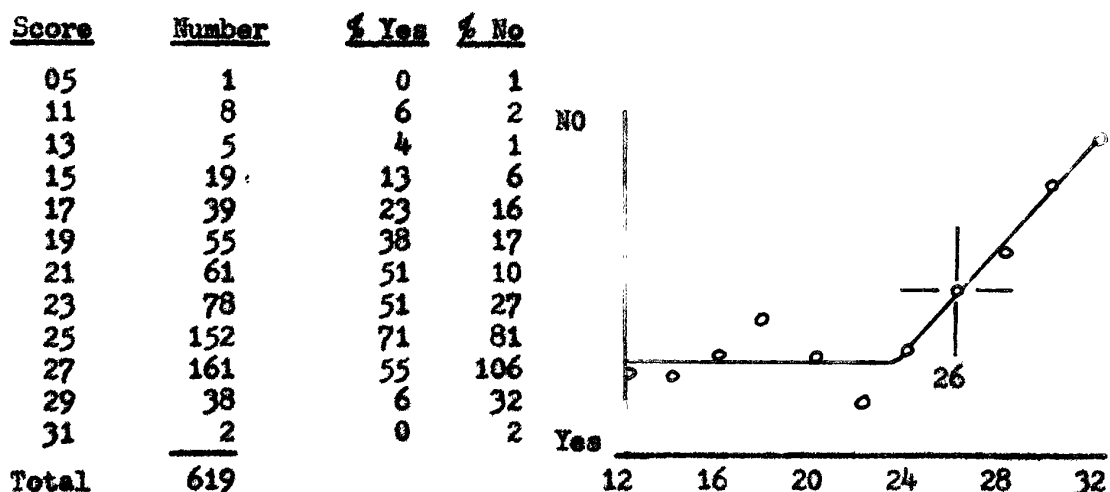
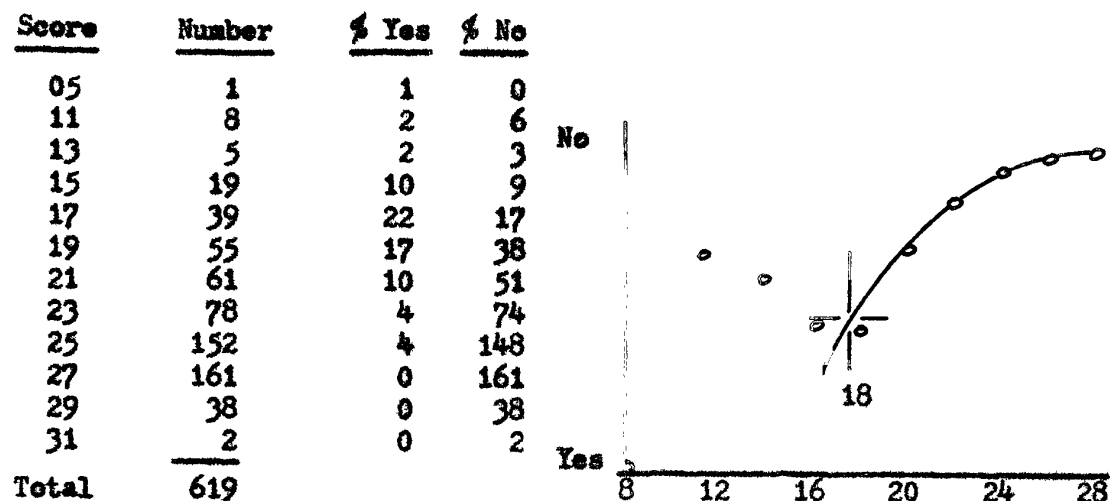
PERCENTAGES OF YES RESPONSE TO INDIVIDUAL STATEMENTS
RACIAL PREJUDICE SHEET, BY GROUPS

Statement Number	Asbury Seminary Students	Asbury College Students
<u>Prejudice as Superiority</u>		
2- 1	3	7
2- 3	18	26
2- 18	6	4
2- 20	12	16
2- 26	4	9
<u>Failure to Associate</u>		
2- 2	8	3
2- 4	35	45
2- 5	50	73
2- 6	72	63
2- 7	10	14
2- 9	96	90
2- 10	7	15
2- 14	2	2
2- 25	91	88

Note: This portion of the opinionnaire was not administered to the groups at LaGrange Prison or at the University of Kentucky.

TABLE IX

SAMPLE INTERNAL RESTANDARDIZATIONS



All statements show some erratic variation at low scale values but statement 22 shows clearly a lack of orientation below a score of 23. The extraneous values for statement 13 were responses of a small sample. The scale values assigned are shown as 18 and 26 where they cross the 50% line.

TABLE X.
THEOLOGICAL CONSERVATISM SCORES, BY GROUPS

Test Group	Number of Responses	Scores of Theological Conservatism										
		0-14	5-28	9-13	13-15	16-18	19,20	21,22	23,24	25,26	27,28	29,30
Prison												
Total	42		2	3	7	10	11	5	3	1		
University												
Total	150	2	4	7	9	27	33	27	26	11	3	1
Seminary												
Total	160					2	1	2	9	42	82	22
College												
Male	127					1	1	12	15	32	49	17
Female	142							3	15	35	70	19
Total	269					1	1	15	30	67	119	36

TABLE XI

SCIENCE APPRECIATION SCORES, BY GROUPS

Test Group	Number of Responses	1	2	3	4	5	6	7	8	9
Prison Total	42	1	-	3	7	9	5	7	7	3
University Total	150	1	2	1	3	20	29	35	32	27
Seminary Total	160	-	-	1	8	17	35	61	29	9
College Male	127	-	2	6	5	16	23	41	29	5
Female	142	-	-	1	4	11	38	38	40	10
Total	269	-	2	7	9	27	61	79	69	15

TABLE XII

SAMPLE CORRELATION DATA SHEET, THEOLOGICAL AND RESOLUTION OF CONFLICT SCALES

Σnx	Theology Score	n + 1	Religious Conflict Scores									
			Mean	1	2	3	4	5	6	7	8	9
0016	02	3							1	1		1
0041	06	7							1	2	2	2
0071	09	11					1	1	1	2	3	2
0083	13	17		1	1	2	3	3	2	2	3	1
0269	16	41		1	1	1	2	4	6	8	10	7
0307	20	47			1	1		7	12	9	12	4
0340	21	50						8	12	12	9	8
0470	23	69				1	2	9	12	19	16	9
0799	25	122				3	10	10	28	37	24	9
1373	27	205			1	4	4	24	45	67	47	12
0386	29	60					5	6	13	23	11	1

TABLE XIII

STATEMENTS SELECTED FOR THE FINAL SCORING, AFTER
INTERNAL RESTANDARDIZATION

Statement Number	Mean Score	Statement Wording
<u>Theological Conservatism</u>		
38	9	Religious faith dulls a person's mind so that he cannot face facts as they really are.
55	11	Religion is escape from reality.
72	12	The gospel of Christ is a message needed by the whole world.
88	12	My religious faith is too precious to confuse it with the problems of everyday living.
75	13	There is no life after death.
62	13	Faith in Jesus Christ is stronger than death.
48	13	The Resurrection of the physical body of Jesus after death is a fact central to the Christian message.
23	13	The story of the Virgin Birth of Jesus is true.
15	14	The Bible should be studied for its rich insights into human life rather than as a message from God.
8	14	The Bible foretells events still to come.
29	15	Christians should be actively committed to the truth as it is revealed in the Bible.
69	15	God always answers the prayers of believers, although the answer is often "No".
11	15	Community attitude determines whether an act is sinful or not.

TABLE XIII (continued)

10	16	We cannot know if there is a God or not.
19	16	There may be circumstances under which a Christian is justified in renouncing his faith.
84	16	Bible centered theologians have been noted for their stupid mistakes.
106	16	Religious instruction should be a part of college training.
13	17	Good people go to heaven even if they do not believe in Jesus.
78	17	Prayer is primarily a psychological means of easing frustration.
66	17	Part of the Bible is true, part fictitious.
4	17	The most important role of Jesus was as an ethical teacher.
67	17	The earth will be ruled by Christ in the future.
41	19	The Bible is the final authority in moral decisions.
105	19	I will send my children to a Christian college if I can, rather than to a secular school.
61	20	The Bible was inspired, word by word, by God.
104	20	If I were a college teacher, I would prefer to teach in a Christian college.
63	24	The immorality of many movie actors and actresses is sufficient grounds for discouragement of theatre attendance.
89	25	The creed of the church should change as we learn more about God.
57	27	Dancing and drinking are adequate evidences that Christ is not known as Savior.
96	28	God sends such disasters as earthquakes to punish people for their sins.

TABLE XIII (continued)

Scientific Appreciation

80	6.0	Science is a catchall for misfits.
33	6.5	Laboratory research determines little of practical value.
79	6.5	Recent scientific developments have made life more pleasant.
16	7.0	The motive of most scientists is the betterment of mankind.
73	8.0	Government aid to science should be increased.
59	9.0	No person can be considered educated until he has a basic knowledge of the sciences.
5	10.5	Scientists often use their laboratories as a retreat from the world.
83	11.	Scientists often overlook data when these data cannot be studied by their present methods.
65	12	Many claims of science are hard to accept.
90	15	World peace will come only after science finds the way to relieve starvation and suffering.

Resolution of Conflict

46	2.5	Science is increasing our knowledge of God.
45	4.0	Scientists should openly point out the many weaknesses which they see in the Christian faith.
17	5.0	Ministers should never mention science unfavorably from the pulpit.
12	5.0	The use of religion as an escape from the trials of life is beneath the dignity of an intelligent man.
52	6.0	Christianity is the universal key to all areas of knowledge.

TABLE XIII (continued)

54	7.5	Science shows that much of the Bible is myth and legend.
49	8.5	Religious conviction is more important than scientific effort to a nation's strength.
60	8.5	The Bible contains many evidences of scientific knowledge.
26	9.0	The Christian desire to help humanity has been an encouragement to scientific research.
9	9.0	Religious faith dulls a persons mind so that he cannot face facts as they really are.

APPENDIX E

The Biographical Data of the Participants

TABLE XIV

ECONOMIC AND POPULATION HISTORY OF THE PARTICIPANTS

Population of Home Community	Family Income	Prison Inmates	University Students	College Students	Seminary Students
Less than 2500	Less than \$ 2000	-	2	3	1
" "	Less than \$ 10000	9	42	44	21
" "	More than \$ 10000	1	1	1	-
Less than 25000	Less than \$ 2000	-	1	2	2
" "	Less than \$ 10000	16	66	108	54
" "	More than \$ 10000	1	10	15	10
More than 25000	Less than \$ 2000	-	1	-	1
" "	Less than \$ 10000	1	16	15	16
" "	More than \$ 10000	-	-	8	-

TABLE IV

THE RELIGIOUS AFFILIATIONS OF THE PARTICIPANTS

Religious Affiliation	Prison Inmates	University Students	College Students	Seminary Students
Judaism	1	1	1	-
Roman Catholic	1	24	3	1
Methodist	2	24	176	35
Baptist	16	47	12	-
Presbyterian	3	10	4	-
Episcopal	-	2	5	1
Disciples of Christ and Related Groups	2	24	2	1
Holiness Groups	2	1	49	64
Miscellaneous	9	16	14	5

TABLE XVI

GEOGRAPHIC DISTRIBUTION OF THE HOMES OF THE PARTICIPANTS

Geographic Area	Prison Inmates	University Students	College Students	Seminary Students
Border States	33	140	48	13
Ohio	2	4	49	15
Northeast	3	5	34	24
South	4	2	68	22
North central	-	-	28	13
Mid central	-	2	33	20
Midwest	-	-	7	19
West Coast	-	-	1	17
Foreign Countries	-	-	6	4

TABLE XVII

COLLEGE MAJORS OF THE PARTICIPANTS

College Major	University Students	College Students	Seminary Students
Engineering	156	-	2
Science	-	32	3
Theology	-	27	52
Education	-	71	14
Art and Music	-	8	5
Languages	-	22	11
Social Sciences	-	51	42
Professions	-	18	2
Other	-	26	19